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# Textile World

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TEXTILE WORLD

DOUGLAS G. WOOLF, Editor

# Christmas Comes ONCE a Year

**WE HAVE ALWAYS THOUGHT** the phrase "Christmas comes but once a year" was too negative. The important fact is that Christmas comes *once* a year. Not often enough, it is true, but at least that often.

Possibly the slight difference in emphasis is like that between the pessimist who says "There's only a half-bottle left," and the optimist who says "Look! there's still half a bottle left." This metaphor, we hope, is justifiable in a season of Christmas cheer.

Most of us parents try to substitute something about the spirit of Christmas for the Santa Claus legend when our children just can't take the latter any more. And, personally, we don't think it's a bad substitution. In fact, we think it's a swell substitution. It's something that a growing mind can appreciate, when it can no longer visualize a fat Saint Nicholas squirming down a sooty chimney, into a roaring open-fire.

Textile manufacturers stopped believing in their particular Santa Claus more than a decade ago. We recorded that fact in these columns when it happened. (See TEXTILE WORLD, Dec. 24, 1927.) At first they went to the other extreme and didn't even believe in the spirit of Christmas.

Nor can they be blamed for that. They experienced the onslaught of new competition which denuded erstwhile prosperous mills. They saw apparently impregnable markets for their products crumble before technical innovations. They held their breath while new sections of the country, new fibers, new machines, new processes, took their toll from the textile stronghold of the past.

This Christmas, that process of erosion is still going on—and at a more rapid rate than ever before. No textile manufacturer can take time out even on Christmas day; no textile man can pause for even 24 hours in his watchfulness.

Is that all to the bad?

It is, for those who live in the past—but for those who live in the future, it is as exciting as were the Christmases of their childhood. It spells adventure—just as coming downstairs in the dawn of Christmas morning to see what Santa Claus had brought them spelled adventure to them then.

But the spirit of adventure isn't enough. There is always a search for something quite the opposite of that: the search for security. And there has been little assurance of security for textile manufacturers during the last 15 years.

Will there be soon again? Probably not. The world is being re-made as we write these lines. Whether it will be made into something better or worse is anybody's guess. At the moment, the odds are on the latter.

But that, too, will pass. Eventually, as out of every past catastrophe, the world will move to higher ground. It is hard to realize that fact, we admit, but with the perspective of centuries we can see it dimly.

**MEANWHILE,** Christmas comes once again. It comes to a tired world and a tired industry.

It promises nothing this year, despite temporary profits, but it urges a great deal. It impels citizens of this still free land to safeguard that freedom against every attack from within or without. It impels those citizens to resist enticement into the involvements of a still wearier world: that across the sea.

It impels this textile industry to recapture some of the hope which brought it into being. That hope was the expectation that substitution of machine-power for man-power would lessen the burden on men, and enable them to enjoy some of the benefits of leisure.

To date, that hope hasn't been completely realized. But it has, to a degree. The life of the average worker is a happier one today than it was 25 years ago, at least. He or she lives a fuller life today than ever before.

In this, the textile manufacturer has a stake. He knows it full well—else wherefor all the industrial-relations programs which have made this textile industry a great social force in the country?

Christmas spirit, in 1939, means a re-dedication of the industry to the principles on which it is based, plus a re-orientation of that industry to a changing world.

That is a good trick, if you can do it. And the textile industry, as a whole, *can* do it. It has shown that it can do it during these last awful years. It can establish an industrial equity which will continue all the good things of past generations, and yet insert all the revisions which new needs demand.

If we didn't know the textile industry and its personnel as well as we do, we would be less positive. But, knowing them, we are glad that the spirit of Christmas comes *once* a year, as an annual restorer of hope and determination.

# THE EDITOR SAYS

## Wallace's Dreamlined Processing Tax

THERE ARE MORE WAYS than one to skin a cat—and apparently no one knows that better than Secretary of Agriculture Henry Wallace. Undaunted by the Supreme Court's harsh treatment of the processing tax, and encouraged by the change in personnel of the court, Mr. Wallace is campaigning for a streamlined form of processing tax known as the "certificate" plan. (See page 52 for the horrible details.) He would limit it to wheat, rice, tobacco and hogs. Opponents are unkind enough to say the plan is dreamlined, and think the proposal will bog down in Congress under the load of peanuts, citrus fruits, sweetpotatoes and other products that would be piled on during its legislative course. (Boloney isn't mentioned specifically, because that is included under hogs.)

At any rate, it's another instance of the false-mustache trick in Washington. The Greeks may have had a word for it, but the Administration always has another name for it, when the real monicker becomes unpopular or illegal.

If we seem to be mixing our metaphors a bit, it's not that we don't know better—but we always get dizzy when we read anything about the Department of Agriculture's plans. If you don't understand what we mean, read page 52, and then see how you feel yourself!

## Two Britishers Look At Our Associations

WE TAKE OUR TEXT from the report of Col. W. A. Grierson and E. Raymond Streat, the two members of this year's trade mission from the Manchester (Eng.) Chamber of Commerce to this country:

"It may be of interest to many in Lancashire for us to mention a factor in the American situation which we ourselves had not fully realized prior to our visit. We refer to the extraordinary complexity and duplication apparent in the organization of the cotton textile trade interests of America. The Cotton-Textile Institute stands ostensibly as the recognized single national organization covering the industry as a whole. There exist, however, an immense number of separate organizations, both national and local, covering manufacturers, finishers, domestic merchants and export merchants. Lancashire men may think that unity is hard to come by in the Lancashire cotton trade, but our view is that our friends in America have even greater obstacles to surmount. The task of unifying so many organizations must indeed be overwhelmingly difficult, and we have the impression that the American cotton man is even more individualistic and less inclined to join in and observe internal trade agreements than his Lancashire counterpart."

That gets us where we live, as our readers know. For six years, we have been advocating coordination of the textile trade-associations. This month represents the sixth anniversary of the start of our campaign.

Fortunately, progress is being made. In our July issue (page 56) we reported the formation of the National Council of Textile Industries. In this issue (page 42) are announced plans for the first activity under the auspices of this Council, as well as for a continuation, at a greater frequency, of the series of coordination conferences of textile trade-association officials.

The goal has not been reached, however. There is still much work to do before completely effective coordination of the activities of *all* the textile associations is achieved.

So we haven't put away our "Eventually . . . Why Not Now?" shingle. We expect to flash it before our readers consistently until a thorough coordination job, covering the entire textile industry, is completed. We know it must be done eventually, so we don't see why it shouldn't be done now.

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**ANSWERS ON PAGE 54**

If you want to know the answers to your questions on spun rayon —and who doesn't?—look on pages 54 to 59 in this issue, where we present our report of the spun-rayon symposium held at the annual meeting of the A.S.M.E. in Philadelphia Dec. 6.

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## Production Control The Real Answer

THOMAS M. MARCHANT, president of Victor-Monaghan Co., Greenville, S. C., whose sudden death shocked the industry last month, was one of the best-informed, as well as one of the best loved, men in the cotton manufacturing industry.

In a recent letter to us, discussing our question "Can a Textile Man Make Money?" he put his finger on a vital spot.

"Other industries control production to some extent. Often you see the steel mills running at very greatly reduced schedules, while at the same time they are holding their prices firm or are advancing them. Give me a sensible group of manufacturers to outline a definite program of long range control of production, and I believe many of those who have failed to cooperate in the past would see that it is to their advantage to do their part."

There you have the rub. When decreased demand comes to a well-organized industry, it adjusts its producing schedule to the new volume, and instead of feeling that lessened demand necessitates give-away-your-shirt prices, it is more apt to boost its prices because of the increased costs due to the fact that the overhead is applied to a smaller volume. Take a big-hearted textile man, however, and he is often too apt to think that when demand shrinks, everybody ought to pile away at production and cut down prices. Well, it has been tried a lot of times and it hasn't worked yet. . . . Somebody said recently: "A sale without profit is a sale without honor."

Just now, when there is a little profit in the textile business, manufacturers might begin to plan ahead against the next time when mills are fighting hard for business and when the temptation toward price-cutting is renewed—for come again that time will, as sure as death and taxes. Maybe the experience of the past will teach them, at last, that reducing the price of goods as volume shrinks is cock-eyed mathematics, and that the only answer is, as Mr. Marchant pointed out, to develop a definite program of long-range control of production.

Let us hope that this will be the major result of the coordination conference next month.

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*Photo by Suzio*

**The Saddest Textile Story Ever Told:** During the last months of the New York World's Fair, the statue "Textiles" gazed upon this invitation to free swing dance-music, nightly, in the erstwhile Textile Building. The statue seems to be trying to be a good sport and to get the swing of it. Every time we passed this scene, it gave us the shivers. We wonder if the textile industry is going to pass up this promotional opportunity next year also. If not, now is the time to think about it.—*Editor.*

# What War Would Do to Textile Men

## Here's what would happen if U. S. joined the European mess—Read 'em and weep

By PAUL WOOTON
Washington Correspondent, TEXTILE WORLD

If this country got into the new war, what would happen to the average man who runs a textile mill? That's the question we put to our Washington correspondent. He answers it in this article —not by letting his imagination run riot, but by presenting the facts, as they seem to be lining up at present. Without trying to be spectacular, he nevertheless produced a story which has more shivers than the average "thriller."—*Editor.*

**INDUSTRY IN THE PAST** has been accused of instigating war so as to garner large profits. Substantial sums of public money were expended for the Nye investigation in an unsuccessful effort to substantiate that charge. Even if it were true that industry in the past covertly welcomed war as a stimulus to business, abundant evidence is reaching Washington that neither industry nor agriculture under present conditions has any such desire. In fact, the indications are that those engaged in these two activities overwhelmingly favor staying out of war at nearly any cost. This is explained on the ground that those groups still are suffering from the aftermath of the World War, and by the fact that they realize another war would be accompanied by rigid regimentation and greatly increased taxation.

Government interference has become a nightmare to industry. Farmers are even greater individualists than are industrialists. Apparently the full weight of the influence of these two groups is being exerted to keep the United States out of the war.

If the United States becomes a party to the war it would mean the clamping down of a dozen controls on the textile industry and on all other industries just as soon as the industrial plan could be rushed through Congress. The plan has been worked out carefully by the Army and Navy Munitions Board. There is reason to believe that it has been approved in its essentials by the War Resources Board. It is in final form ready to lay before Congress. Incidentally, it was a year after the United States entered the World War before these controls were imposed.

One of the first things that would probably happen to the average textile mill would be the receipt of a compulsory war order. The Government under the plan would have the right to require execution of that order without regard for work in process or for private commitments. The goods would have to be produced on a schedule prescribed by a Government agency in Washington.

It might be that the Washington agency would decide that the existing plant should be enlarged. The agency would facilitate the financing of the addition but with the aid would go conditions. Instructions probably would be issued to make arrangements for additional power. Management could not argue. It would have to go out and make the required arrangements with the electric utility.

The mill owner would be instructed just how to route his shipments. The prescribed route might be tortuous and devious to avoid busy spots on the rail system or to utilize water carriers.

Management would have to start battling immediately to keep its skilled personnel. It is difficult to establish that an employee is indispensable but there is no doubt as to demoralizing effects of having to break in a large number of new workmen. Immediate training of women to take the place of men would have to be undertaken on a considerable scale.

Prices would be fixed and care exercised that no speculative profits be allowed. The Treasury has worked out a tax plan that will take any profit margin that the price fixing committee may have overlooked. While the Administration has not favored the bills proposing various methods of taking profits out of war, it has worked out plans of its own to that end.

All this involves regimentation and interferences with business which would be hard to remove after the war was over. Regimentation would fall much harder on management than it would on labor.

War would intensify the cotton problem and the problems surrounding all raw materials and the procurement of equipment and supplies.

**ALL AUTHORITIES ARE AGREED** that war would bring a great increase in the activity of the textile industry. Were the United States to enter the war in the near future a serious situation would be precipitated. Due to the possibility that a change might be made in color, stocks of uniform cloth are abnormally low. As it now has been decided that slate blue has no substantial advantage over olive drab, production of the cloth that long has been standard, will continue. Stocks will be built up promptly to peace-time levels, but it is doubtful that money will be appropriated to lay in abnormal stocks so long as the entry of the United States into the war seems unlikely. If the unexpected happens and war comes, the great bulk of requirements—uniform cloth, blankets, underwear, hosiery, canvas, surgical dressings and all the rest—will have to be produced after actual declaration of hostilities.

Although textiles are not classed as strategic or critical materials a great expansion of capacity would have to take place to provide for the requirements of millions of soldiers and of the civilian population which consumes more textiles when there is full employment at war-time rates of pay. Not only that, but the industry must be prepared to supply civilian clothing for disbanded soldiers. It was demonstrated at the end of the World War that practically every soldier had to be re-outfitted on discharge. Styles had changed. The old civilian clothing had not been carefully preserved in most cases. In a high percentage of instances old clothing would not fit because the owner had grown more sturdy under military routine.

For this abnormal increase in capac-

ity the industry must pay dearly when the rush is over. In the manufacture of airplanes, machine tools or munitions, foreign buyers virtually are being required to pay for the increased capacity needed. Those manufacturers are in a position to make their own terms. The textile industry is not in the same position in that respect. It would not have the same proportion of foreign orders to build it up before the war orders of the United States would come pouring in. It is true that plans are being made by the tax authorities for the accelerated depreciation of plant and equipment installed to take care of emergency orders. Such legislation, however, must be protected from abuse. That process usually prevents full justice being done those who have no such thought.

Textile manufacturers along with other Americans must also consider what war probably will do to our form of Government. Many believe that our entry into the war would produce so many economic maladjustments that the temporary dictatorship that must be set up could not be dropped with the cessation of hostilities. Added to the long depression which has depleted the Government's reserve would be the heavy expenditures of the war. The Government probably would be in no position to take care of the unemployment that would likely exist when war orders stopped. It would not be able to disburse largess to the veterans as always has been possible before. The only way revolution at home probably could be prevented would be by a centralized Government of the mailed-fist variety.

All together it does not make a pretty picture. Americans have come to learn that war is mostly liability.

# War Effect on Textiles Fades

## Just an ordinarily good market now, with plenty of uncertainties

A STAFF ARTICLE

**WHAT HAS BEEN CALLED** a war boom in textiles has settled down to an ordinary situation, with mills active and prices firm, but with a continuing undercurrent of uneasiness. Actually, war developments are having little effect on the textile markets at present, other than to supply intermittent chills and fever as rumors fly around.

There is little reason to expect any marked change in the textile situation, certainly for the first few months of 1940, unless there is some definite and important development in the war in Europe, or in our relation to it, or in our own Governmental situation. The latter has added one more questionable factor in the possibility of increased taxes to support the enlarged defense program. However, this is only one of the uncertainties which make any long-term prediction in textiles impossible. There are such questions as further export possibilities for us in countries not at war; the actual outlook in war orders for textiles; and above all the probabilities as to the duration of the war, and its limitation to those countries now participating or its extension to include other combatants.

These are enough imponderables to make any market outlook indefinite, and that is just what the textile picture is today.

**HIGHLIGHTS IN THE** individual branches of the industry are summarized below:

*Cotton:* The cotton textile outlook at the beginning of December was definitely less exciting than at the start of the previous month but mills were operating full-time on orders extending six to eight weeks ahead. There was a tendency to regard print cloth prices as not too satisfactory from the standpoint of margin possibilities, but some manufacturers regarded this fact as a favorable one since it tends to retard excessive production.

Print cloth inventory on hand at mills is not large but the industry fears over-production if third shift operation continues to increase. Thus far, this has not become a runaway situation. It is privately estimated that only 20,000 of the 85,000 print cloth looms were on third shift at the start of the month—and this percentage is less than that of previous estimates, which may have been excessive.

In Worth Street print cloths have met spurts of calls for quick delivery. Sheetings and osnaburgs have benefited by demand from burlap users who fear they cannot get burlap soon. Denims have been continued through February on basis of 12½¢ for 2.20s. Raw cotton is little changed. It is felt that a sudden end of the war would bring a slump to the market and that on the other hand its continuance is not likely to run cotton prices up other than gradually.

The Mercerizers Association of America announced that shipments of mercerized cotton yarn for the first 44 weeks of 1939 showed an increase of 35% over the corresponding period of 1938, and of 27% for the previous five-year average for this same period.

On combed yarns, the best opinion is that a continued war boom is unlikely. Sales in September, which were speculative in character, dropped in October to the average level of the last 12 months. The buying period purely as a result of the war was definitely speculative and of short duration. It is felt that combed yarn mills, having stuck to two shifts, are in reasonably good shape, but it is also realized that any effort to push production unduly would result in disaster. It is stated in the combed yarn trade that the British are delivering goods to South America and guaranteeing delivery of all new orders; this is held to be a barrier to the possibility of American combed yarn mills building up an export market.

*Wool:* The situation in the woolen and worsted goods markets represents a typical approach to the year-end, with talk of price concessions but no official cuts. Trade feels the in-between-season lull. Wool is firm at less than the peak levels of September. Fluctuations in the raw material last month were limited. War orders for army blankets have been placed in this country but otherwise the principal effect of the war on the outlook is through raw wool prices and scarcity.

The following word came from our Washington office: Criticism of Britain by wool manufacturers for releasing only 10,000,000 lb. of Australian wool to America, is taken to mean that they think England is taking advantage of her control of much of this country's wool import sources. Government officials admit that the amount promised is entirely inadequate in face of our need for perhaps 200,000,000 lb. They admit too that Britain's failure to name prices and time of delivery, or to promise any more for the future is annoying. But they excuse the British on the ground they are uncertain as to emergency needs, and must prevent supplies of wool and goods from reaching the enemy. Opinion here is that this country will get considerably more Australian wool, but not enough.

*Rayon:* While production of rayon filament yarn registered a substantial gain during the third quarter of the year, according to figures compiled by the *Rayon Organon*, the star performer was staple fiber, the production of

which established a new high record for all time during the quarter ending Sept. 30. Production for that quarter aggregated 14,700,000 lb., exceeding by 20% the former high of 11,500,000 lb., produced during the second quarter of the year. Although imports of rayon staple fiber during the third quarter remained at the 10,000,000 lb. level, the total staple fiber available for consumption reached a new high of 24,700,000 lb.

November shipments of rayon yarn totalled 32,900,000 lb. compared with 34,100,000 lb. in October of this year and 21,700,000 lb. in November, 1938. Yarn stocks held by producers at the end of November amounted to only 7,500,000 lb. (about a one week's supply), a decline from the already-low level of 9,400,000 lb. on Oct. 31. Yarn shipments for the first eleven months of 1939 totalled 325,300,000 lb., an increase of 31% over the shipments for the corresponding period of 1938.

Primary producers are operating at full speed and outlook is for further records in the last quarter of 1939 and first quarter of 1940. Orders for January yarn deliveries have been booked at prices unchanged except on the 50 and 75 denier items. Several producers in early December raised their 50s by about 5¢ per pound and a lesser number advanced 75s by 3¢.

*Silk:* Raw silk took another surprising upturn early in December, and on Dec. 5 Double Extra Cracks, 78%, in New York, touched the record figure of $3.62½, not surpassed since June, 1930. The Japanese markets were the highest in 13 years, the full advance being cushioned to the U. S. by the exchange rate. The rise in Yokohama was assigned to renewed speculative buying and further gains in the high domestic consumption of the fiber.

*Knit Goods:* Hosiery has been moving well in holiday retail sales. Continued high silk levels mean a probable difficult first quarter of 1940 for full-fashioned mills, with limited profit. In half-hose there is an increased trend toward fancy developments, such as slacks, elastic tops, etc. . . . Underwear is firm with prospects for the coming quarter good. . . . Outerwear is handicapped somewhat by high wool yarn prices but is adapting other fibers.

*Finishing:* Cotton finishers are busy, but not quite so much so as they were at the end of October and the beginning of November. . . . Increase in full-fashioned hosiery finishing costs, due to rise in prices of chemicals and other supplies, is estimated at 6 to 7¢ per doz. The wage-hour law probably increased labor costs somewhat, making the total increase more than that figure.

# To Meet with Arnold

## National Council to sponsor meeting Jan. 5; coordination conference Jan. 6

**THE FIRST ACTIVITY** of the newly-organized National Council of Textile Industries will materialize Friday evening, Jan. 5, at the Waldorf-Astoria, New York, when members of the three associations which formed the Council will meet with Thurman Arnold, Assistant United States Attorney General and head of the Anti-Trust Division of the Department of Justice. Mr. Arnold will discuss the legal rights and responsibilities of industries and their associations, and will also make proposals concerning possible revision of the anti-trust laws.

On Saturday, Jan. 6, the day following the dinner-meeting, there will be held another closed conference of textile trade-association officials similar to those which have been held in recent years in connection with the annual meetings of the Cotton-Textile Institute. In announcing plans for this coordination meeting, Dr. C. T. Murchison, president of the Institute, stated that it was felt the conference should follow the Arnold address promptly, in order that the association executives might formulate their policies more intelligently.

*Wide World Photo*

Thurman Arnold, head of the Anti-Trust Division of the Dept. of Justice, who will talk to textile men about the anti-trust laws on Jan. 5.

As noted in the July 1939 issue of TEXTILE WORLD, the National Council of Textile Industries was formed by the following three associations: Cotton-Textile Institute, National Rayon Weavers' Association, and National Federation of Textiles. Its purpose is to consider matters in the textile industry involving the common interest and welfare of its members and to aid in such ways as its members may conclude are useful in the welfare of the industry and the public interest. It was a major step in the direction of coordination of textile-association activities—a goal which has been advocated by TEXTILE WORLD for the last six years, since the publication of the original editorial on this subject in its December 1933 issue.

The coordination conferences of textile trade-association officials inaugurated by Dr. Murchison represent another vital activity with the same purpose. This year's meeting in October was so successful that the group voted to meet quarterly, instead of annually, in the future—and the Jan. 6 conference is the first under this new schedule of frequency. The meetings are devoid of ballyhoo, and are planned purely as media for the exchange of constructive opinions.

Associations whose officials participate in these coordination meetings include the Cotton-Textile Institute, National Rayon Weavers' Association, National Federation of Textiles, National Association of Cotton Manufacturers, American Cotton Manufacturers Association, Association of Cotton Textile Merchants of New York, National Association of Finishers of Textile Fabrics, Mercerizers Association of America, Southern Combed Yarn Spinners Association, Carded Yarn Group, Association of Cotton Yarn Distributors, Textile Fabrics Association, Narrow Fabrics Institute, American Lace Manufacturers Association, Cotton Thread Institute, Narrow Sheetings Group, Print Cloth Group, and the Cotton Manufacturers Associations of Alabama, Georgia, North Carolina and South Carolina.

A rough crepe of Eastman acetate rayon, woven by A. D. Juilliard & Co., is the fabric attractively fashioned by Wellesley Modes into this basque dress with that military look

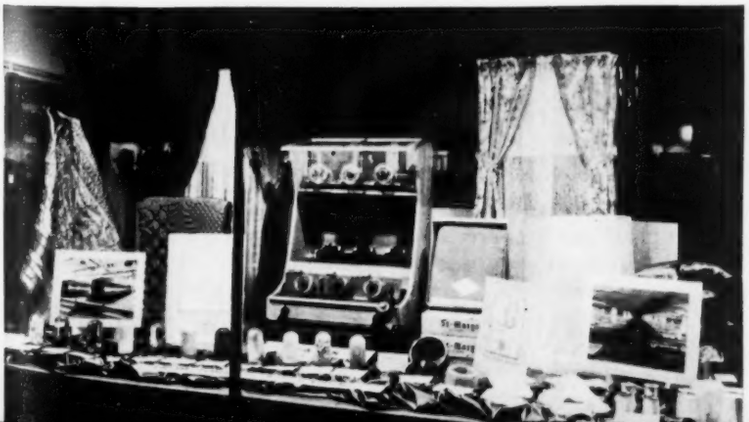
No crying over spilled milk when Koroseal treated cotton table-cloths are used! Sunlite Mfg. Co. of Milwaukee, is producing this new line, using the B. F. Goodrich Co. synthetic. The treatment renders the fabric impervious to ink and other stains

# Textile Snap-Shots

Black-outs and bombs bring new modes to European women. At right is sketch from Paris of Schiaparelli's "Pyjama d'Alerte", or alarm pajamas for wear in air-raid shelters on chilly nights. They are made of soft black wool, zipped down the front and well fitted with pockets for valuables or food

Spun-rayon makes debut in men's raincoats. This $5.00 retail item is made of Kasama Kloth, a Crown-Tested rayon fabric developed by Riley Co., Inc.

Window Displays Carry on Rayon Public Relations: Industrial Rayon Corp.'s new continuous-process viscose spinning is dramatized in a window of the National City Bank of Cleveland, Ohio: below, American Viscose Corp. materials and processes are shown in the window of Thurman & Boone, retailers of Roanoke, Va.



# Textiles in Brazil

## Is the industry there a bonanza or just a pain in the neck?

BY WILLIAM G. ASHMORE
Southern Editor, TEXTILE WORLD

South America periodically inflames the imagination of American business men. When the European war broke out, this already-warm interest became red-hot over night, and many companies in the textile field began looking southward. The following impressions are based on peace-time investigations by the author last August.

**ON THE SURFACE,** the cotton textile business in Brazil—the first country I visited—looks like a bonanza for anyone who can raise the capital to erect a modern plant. Bankers in several industrial centers told me that the owners "start complaining only when earnings drop below 10 to 15%." But are the opportunities as rosy as they appear on the surface?

First, let's take an overall look at the industry. There are over 500 textile manufacturing plants of all kinds in Brazil, about 40% of the total number in South America. Of these, perhaps 350 plants, with 2,750,000 spindles and 85,000 looms, manufacture cotton goods. I visited a great many plants of all types in various sections of the country. Many of the mills are small and unimportant, but a few are sizeable units.

Here and there I saw a mill as modern and efficient as any in the United States, but these were the exception. It is estimated that 70% of the equipment in Brazil is obsolete, and, from what I saw in most instances, I thoroughly agree. Further, there seemed to be a sad lack of organization and management as we know them. Yet, despite all this, some of these mills, even with the poorest equipment, show earnings four or five times as great as the best mills in the United States.

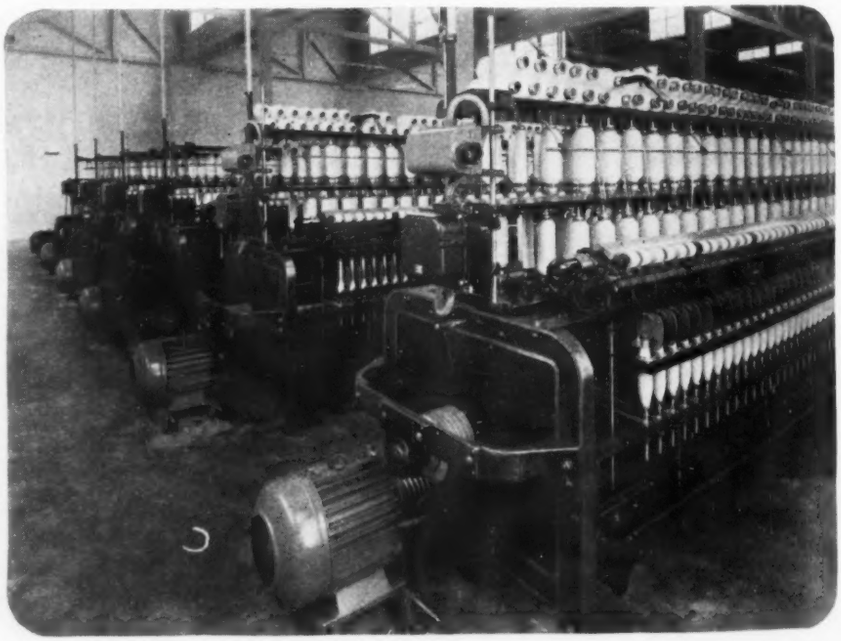
These large earnings are possible, in the first place, because there is a tremendous margin of profit between manufacturing costs and selling price of goods. For example, ordinary shirts in all of the large cities sell from 75¢ to $1.50 each, which is way out of proportion to present manufacturing costs. Labor is as cheap as in Japan, and most of the plants years ago wrote their equipment off the books entirely. Overhead costs—despite poor management—are extremely low. Second, many mills sell more or less directly to the retailer and pocket the middleman's profits. Third, there is an ample domestic supply of cheap raw cotton and wool; some rayon and silk are produced locally at low cost. There are three rayon yarn firms producing filament yarns.

On the other side of the picture, the Brazilian cotton-textile industry during the last year underwent a "crisis" due to underconsumption. This differs from over-production in that the mill men blame the poor business on the Government, which they claim has lowered the buying power of the working man through taxation and other policies, to a point where he cannot purchase his usual requirements. Government sympathizers say that the mills through a practice of running 16 to 24 hours a day have flooded the market with poor quality goods which are priced too high.

Market conditions are completely disorganized. Every mill I visited is forced to manufacture literally hundreds of different kinds of goods. This means that mass production, in the sense that we know it, is at present impossible in Brazil. Further, there is difficult competition from small, family-operated plants with no overhead and little conception of manufacturing costs. What market there is happens to be pretty well tied up by Brazilians, many of Italian descent, who have been in the business for a great many years.

There also were restrictions on importation of productive machinery until the last year or so when this was repealed. Brazilians started making their own machinery during this period, without great success.

**NUMEROUS LABOR LAWS**—The Brazilian industry is saddled with Government regulations and restrictions which are often changed several times a year. Labor laws there are probably more complicated than those of the United States. The work week is restricted to 48 hours; payment ranging from 25% to 75% additional must be made for overtime. Each employe who has worked a year is entitled to a 15-day vacation with pay. There is a social-security or pension law similar to the United States law. A minimum-wage law has been proposed, but it is not yet being enforced. Two-thirds of the employees of a foreign concern must be Brazilian.



A new cotton mill, recently erected in the State of Minas Geraes, Brazil, is shown on the front cover of this issue. Machinery in most of the departments is of American make. Above is view in spinning room

Companies employing more than 500 persons are supposed to provide medical clinics, cafeterias, rest rooms, etc. These laws are on the books, but there is considerable question as to how thoroughly they are enforced in outlying areas.

Despite the "advanced" social laws of Brazil, the situation of the textile laborer is not too good. He earns in the industrial centers perhaps 5¢ an hour or $10 per month; 2¢ to 3¢ an hour in the interior. Of course, this will buy about three times as much in Brazil as in the United States, and living costs are extremely low. Due to these low wages no premium is placed on efficiency. The average Brazilian worker runs 25% of the equipment run by the U. S. worker.

There are no labor unions, although there are organizations of employees said to be more or less regulated by the Government. Occasionally there are local strikes, but not often.

Brazil produces all the cheaper grades of cotton cloth necessary for domestic consumption and exports a small amount to other Latin American countries. Domestic production is protected by a high tariff wall; relatively few textiles come into Brazil except fine yarns and quality products.

The average Brazilian manufacturer seems to have no desire to modernize his mill nor to compete for the world export market. One American industrialist in Brazil told me: "With American management, modern machinery and their cheap cotton, Brazil could undersell the Japanese. But do they do it? No! They are perfectly satisfied with their present profits and easy life."

There must be innumerable opportunities in the textile business of Brazil, but the trouble is in putting one's finger on them. I know of one American resident who has available several hundred thousand dollars which he would like to put into textile manufacturing, which appears to be so profitable. "But no matter which way I turn," he said, "the Brazilians seem to have everything sewed up. But I am convinced that one can make money here with American management and modern machinery."

The greatest potential market now offered textile interests is undoubtedly in the field of machinery. Sooner or later internal competition is going to force the majority of mills to modernize or go out of business. The more forward-looking companies for some time have been installing new equipment, mostly English and German. However, nearly every Brazilian manufacturer I interviewed acknowledged the superiority of American equipment. They would say: "When I modernize, I would like to have American equipment, but the European countries offer lower prices and longer terms. I can't afford American equipment." Our recent extension of credit to Brazil makes it possible for U. S. manufacturers to get a part of this business without fear of loss providing they go into the situation carefully.

Picking and drying cotton in Southern Brazil. Over 40% of the cotton in the State of Sao Paulo, which produces 1,000,000 bales annually, is raised by Japanese colonists. Incidentally, the palm trees in the background contain tender shoots which are deliciously edible, resembling asparagus

**COTTON PRODUCTION LIMITED**—Brazil, a country larger than the 48 United States and with a range of climate from tropical in the north to temperate in the south, is the outstanding cotton producing country of South America. Production has increased from 500,000 bales in 1932 to 2,000,000 bales in 1938 —400%. Fortunately, for the southern cotton farmer, both American and Brazilian cotton experts believe that under normal peacetime conditions it is not likely that production will increase annually by more than 10%. The limiting factor is almost unbelievable to the North American mind. It is simply a lack of manpower. This, of course, could easily change if the price of cotton should reach a point to justify taking labor from other crops.

All the other factors are favorable. There is plenty of good cotton land, and the climate is satisfactory. Despite denials by some U. S. cotton men, it is the unanimous opinion of Brazilian and American experts in the field that well over half the crop is of good grade and staple, and compares favorably with similar types of North American cotton.

"Sao Paulo cotton may be a little more 'neppy' than U. S. cotton," one classer pointed out, "but it makes up for that in that it is cleaner and the crop is more uniform. Of course, the longer staples grown in the north of Brazil are less uniform than U. S. cottons. This is primarily because it is very difficult to improve the strains there botanically since the cotton is picked from year to year from the same tree."

Further, it is a fact that Sao Paulo staple has been increased from ¾-in. to 1 1/16-in., and better.

American cotton men in Brazil say the U. S. could learn a thing or two by studying how Sao Paulo cotton has been improved botanically, and from the standpoint of classing. My personal observation at the State agricultural experiment station at Campinas bears this out. There, elaborate botanical experiments, begun in 1924, have resulted in adaptations of the Texas Big Boll and Express varieties which average 1 1/16 in.

A second phase of the improvement program has been the strict control of seed and planting by the Government. There are sixteen fumigating stations in the State of Sao Paulo where each farmer raising seed cotton is required by law to sell his seed. Last year these stations fumigated, tested for fertility, and resold to farmers, well over 36,000,000 lb. of this seed.

A third phase of the program, which has established world-wide confidence in Sao Paulo cotton, is the Federal Grading Commission, whose grading is so accurate and honest that many European countries accept the cotton it classes without even sampling it.

Of her total cotton production, Brazil consumes some 600,000 to 700,000 bales annually, thus placing recent exports at around 1,200,000 bales. Germany, Japan and Italy took 63% of the export surplus in 1938.

# Air-Conditioning Advantageous

## Proper control helps woolen and worsted mills better output and quality

By ALAN C. McKITTRICK

Parks-Cramer Co., Fitchburg, Mass.

**PROPER AIR CONDITIONING** throughout the various manufacturing departments in woolen and worsted mills serves the triple purpose of improving manufacturing efficiency and quality of products, and attaining in the material a regain which will be fair to both buyer and seller. Lack of proper moisture in wool results in a pronounced increase in rigidity of the fibers, and a consequent decrease in resistance to abrasion and breakage. Pliability is important in spinning, winding, twisting, weaving, and knitting processes, in which the yarn is handled rapidly and where any tendency to stiffness and brittleness would cause imperfections, roughing, and breakage.

Wool absorbs more moisture than any other textile fiber. Under ordinary conditions, the moisture regain of wool is from 10 to 20%. In a fully saturated atmosphere, wool will absorb as much as 32% of its dry weight. The moisture content or regain of wool at any time affects not only its weight, but also its life, elasticity, and pliability.

The American Society for Testing Materials, through its Committee D-13 on Textile Materials, has established a commercial regain standard of 13% for oil-spun worsted yarn, 15% for dry-spun worsted yarn, and 13% for woolen yarn. Under ordinary conditions of exposure, these regains will be acquired under standard conditions of 65% relative humidity and 70° F.

Being a poor electrical conductor, wool is easily charged with static electricity by friction during the various manufacturing processes. A regain condition of 12% or more, provided by properly controlled humidification, will eliminate static and its bad effects.

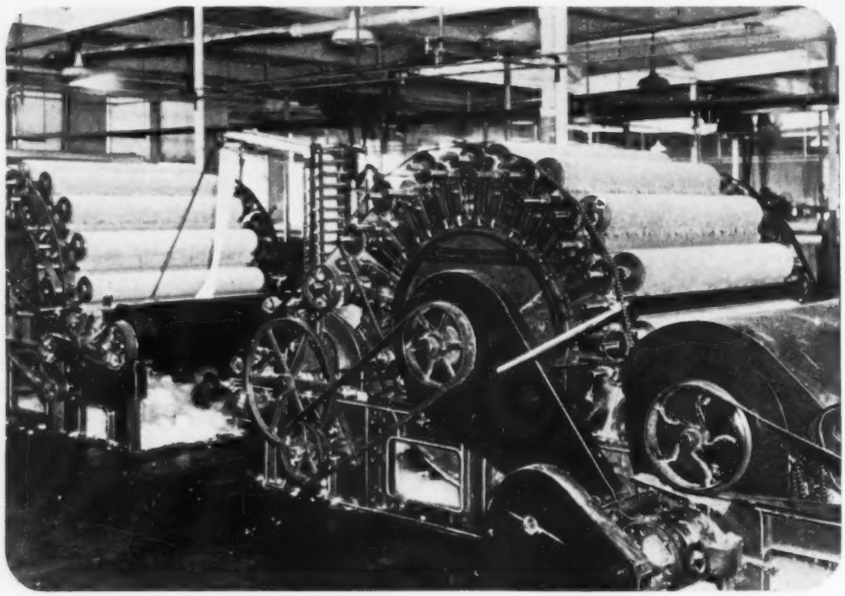
**CARDING**—In Bradford system carding, whether oil or water is used as the carding lubricant, it is important that there be sufficient humidity in the card-room atmosphere to prevent too great a loss of moisture from the material. If the regain of the wool is reasonably uniform, and if loss during the process is practically constant, a close adjustment of the automatic weighing feed will result in sliver of uniform weight. Conversely, with varying atmospheric conditions, the dry weight of the sliver will also vary.

The weighing device is unable to differentiate between the component weights of moisture and fiber. It is important, therefore, not only to use great care in regard to regain of the material fed to the cards, but also to maintain a constant and unvarying relative humidity in the card room, so that the attempt of the weighing device to preserve a uniform weight of sliver may not be defeated.

Too low a humidity, especially when temperature also is low, allows static to develop. This increases separation and breakage of fiber, which is lost as fly. Brittleness, hardness, and loss of pliability also enter the picture with low humidity, causing unsatisfactory carding. Ideal humidity for the Bradford worsted card room is 65 to 70%. A temperature of not less than 75° F. is desirable to preserve the fluid condition of the oil carried by the fiber.

Uniform distribution of moisture in French ring spinning room at Bell Co. is assured by automatically controlled air-conditioning equipment

In French system carding the wool is either partially dried or, after drying, is charged with moisture; but only water is used. The moisture content thus produced, which is partly hygroscopic and partly free moisture, must



Atomizer humidifiers prevent generation of static in woolen carding at New England Newspaper Supply Co.

Automatically controlled humidity contributes to quality and production in Bradford drawing department at Wyandotte Worsted Co.

be retained during carding. Otherwise, there will develop the same difficulties and losses as in the Bradford system. In order to retain this needed moisture and prevent its too rapid evaporation, a relative humidity of 65% should be maintained. Temperature should be not less than 75° F.

Good woolen carding requires sufficient moisture in the entering material and an atmosphere sufficiently humid to retard the evaporation of this moisture during processing. Variations in room humidity and temperature will result in corresponding variations in rates of evaporation of the material.

When humidity is low and variable, the roping refuses to condense properly, and loses its uniformity both in quality and weight. This results in a variable delivery, often interrupted by breakages; a distinct loss of both quality and volume; and a variation in the size of the yarn.

If an attempt be made to correct variations in yarn number by changing draft in the spinning room, the attempted cure lags behind the disease. Fluctuating weight and yarn number thus become constant sources of trouble and imperfections in the product.

If permitted to dry excessively, the fiber has a tendency to contract, to become more harsh and brittle, and in every way less amenable to control and good manufacturing. The evidence of these tendencies appears in a visible increase of fly in all parts of the room. A "starey" condition of the fiber is apparent on the surface of the worker, stripper, and doffer cylinders.

In order to retard the drying out of the material, and to prevent static, a relative humidity of 65 to 70% is recommended in the woolen card room. In addition, a room temperature of 75° F. or more is desirable to preserve the fluid condition of the oils carried by the fiber and avoid the sticky condition which results from too low temperature.

Constant, uniform humidity in weave room at Clinton Mills, Inc., improves production, quality, and comfort

**COMBING** —In Bradford combing static must be avoided. In the absence of sufficient humidity, the delicate strands of top cling to the surfaces of the aprons and lap around the drawing-off roll, injuring the pins on the comb circles. The results are inferior sliver, comb circles often broken beyond repair, idle machinery, and lost production. By maintaining proper humidity, one can avoid such difficulties. Heat radiated from the comb circles usually produces a high temperature in the comber room, especially during summer. The temperature may be reduced materially by the evaporation of moisture from an adequate humidifying system.

Automatic regulation should be set at 60 to 65% relative humidity. This is a desirable humidity for manufacturing, and with ample air change to keep the humidifiers in operation, a comfortable room temperature will result, thus improving contentment and efficiency of the workers.

During French system gilling and combing, relative humidity should be at least 65% to prevent static and too rapid drying out of the material. Lower humidity would cause more rapid evaporation, and also cause the material to lap and adhere to the gill-box aprons; this produces a ragged or feather edge on the film of material before it is gathered into sliver form. On the comb itself, a dry atmosphere causes fibers in the web leaving the delivery rolls to become increasingly hairy and erect until operation becomes difficult, if not impossible. On the other hand, excessive humidity will result in a "ropy" or "stringy" sliver which resists combing. Temperature should be 75° F. in cold weather. Undue temperature rise during hot weather will be prevented by the cooling effect of adequate humidification and ample air change.

**DRAWING** —In the drawing processes on the Bradford system, hygroscopic moisture alone is insufficient for good

operation. Emulsion is introduced in the can gill-box. This moisture is slowly given up by evaporation during succeeding processes. Proper retardation and controlled evaporation require a relative humidity of some 50 to 60%. A temperature of at least 75° F. is desirable to assist softness and pliability.

Too low a humidity causes over-drying, static, and a harsh, wild condition of the fiber, characterized by projecting ends or beards. This prevents the material from drawing evenly, causing it to lap on the aprons and top rolls, and to appear on the arms and twizzles of the flyers. Increase in lap waste means loss of material, lower production, and increased cost.

On the French system of drawing a rather high humidity is necessary, from 70 to 80%, depending upon the fineness and delicacy of the product, fine wools requiring the higher humidities. Temperature should be at least 75° F. In a cool, dry atmosphere, the rub aprons tend to become hard and dry, and the material is so thin and in such an exposed state that fibers are likely to crinkle and to accumulate on the porcupines, aprons, and guides, thus stopping production.

**SPINNING** on the Bradford system may be improved by ageing or conditioning the roving. For this the material is stored in bins or racks with free circulation of air between the packages. Inclosures for the purpose should be humidified and equipped with automatic controls to maintain high relative humidity and temperature. For ease of handling and to provide lubrication between the individual fibers, the material should have a relatively high initial moisture content. This moisture is partially surrendered during the process, insuring at the moment when the twist is run in that tendency to cling and lie smooth which produces a strong yarn with a smooth finish, free from projecting ends.

Relative humidity of 50 to 55% and temperature of 75° F. or over are found to produce excellent results. Too high a humidity prevents good drafting, causes licking or lapping about the rolls, and results in lean yarns and frequent breakage. Too low a humidity dries out the fiber, makes it brittle, favors the generation of static, and results in excessive fly, top-board waste, and wild, beardy yarn of inferior quality.

Without humidity and temperature control, a mill closed overnight and week-ends in winter becomes either too cool or so overheated and so dry that stock in process gives up its moisture to a serious extent. In either case trouble may result when operation is resumed.

French worsted yarns are spun on mules or ring frames. Humidity in either case should be rather high—from 75 to 80%. Temperature should be above normal, especially in mule spinning, where 80 to 85° F. is maintained to advantage. Too low a humidity will produce troubles similar to those described in connection with the drawing process. Because of the delicacy of the thin strand of roving passing through the draft rolls, the slightest trace of static is harmful. Loss of moisture from the roving renders the material unsuitable for spinning.

In woolen spinning, a correct regain in the roping delivered from the card is essential. In order to take advantage of the tendency of the fibers to contract and curl, and so cling firmly to one another during spinning, the material should not have too high a moisture content at this stage. It is desirable that relative humidity in the spinning room be somewhat lower than in the card room. Excessive relative humidity will cause the roping to lap around the rolls, to cling to drums of the jackspools, and to make the yarn too lean, too hard, and uneven. End breakage will increase, impairing quality and production. On the other hand, the spinning-room atmosphere must be sufficiently humid to prevent a too-rapid drying out of the material in the creels before spinning takes place, and a too-rapid surrender of moisture by the fibers during spinning.

A relative humidity of 55 to 60% is recommended for the woolen spinning room, with a temperature of not less than 75° F. Excessive temperature can be prevented during the hot summer months by taking advantage of the cooling effect of the evaporation of moisture. Maximum cooling will be secured by providing a means for ample air change to keep the humidifying system in full operation. Improved comfort and efficiency of the operatives is an added advantage in the well-conditioned woolen spinning room.

In the twisting, winding, and warping processes to which woolen and worsted yarns are subjected, controlled atmospheric conditions are important, principally as they affect regain and the pliability and softness required for subsequent weaving or knitting. Uniform tension secured by controlled atmospheric conditions is an important factor in maintaining quality and production by the prevention of irregularities and strand breakage.

**WEAVING**—In weaving woolens and worsteds, a proper and uniform conditioning of the yarn allows the warp to accommodate itself to the action of the harnesses. Static is absent, tensions are uniform, and production is maximum. Dryness, especially in the case of sized warps, causes a hardness and brittleness which increases friction and breakage, and lowers quality. Too high room humidity causes the yarn to stretch on the loom so that the warp ends sag and tend to become chafed and tangled. Such a condition necessitates the use of excessive warp tension, with resultant increase in breakage of yarn, reduced production, and seconds.

Humidity automatically maintained in the neighborhood of 50 to 55% improves both quality and production. A temperature of 75 to 80° F. is desirable. The temperature-lowering effect of evaporative cooling should be taken advantage of during hot weather.

**PACKING AND SHIPPING**—If the product manufactured is sales yarn, it is marketed by the pound. To protect against loss due to insufficient regain, manufacturers should weigh and pack the finished product in a room having a relative humidity no lower than that recommended for spinning, 55 to 60%. No artificial conditioning of sales yarn will be necessary if this simple precaution is observed.

The manufacturer of woolen and worsted fabrics is in an entirely different position. He sells by the yard. By the time his product reaches the purchaser, regain has ceased to be a consideration. Finish and quality have replaced it in importance. However, if the component yarns are overweight, the fabric will run above its normal weight and the manufacturer will lose the value represented by the excess material. If the overweight is sufficient to impair the feel or quality, the purchaser will make claim for adjustment and this additional loss will be added to that represented by excess material. If the product runs underweight, because of light yarns, the buyer will be quick to notice it and will call for an adjustment. Of course, in this case the loss will involve only the allowance for the claim, and not loss of valuable material.

Woolen and worsted fabrics of high quality should have a regain of from 10 to 12%. Not only is this condition acceptable to the purchaser, but it is also characterized by a soft, natural feel that is especially desirable. With a lower regain, the fabric will be proportionately underweight, and subject to possible claims for adjustment. To eliminate this possibility, properly designed conditioning room equipment can be utilized.

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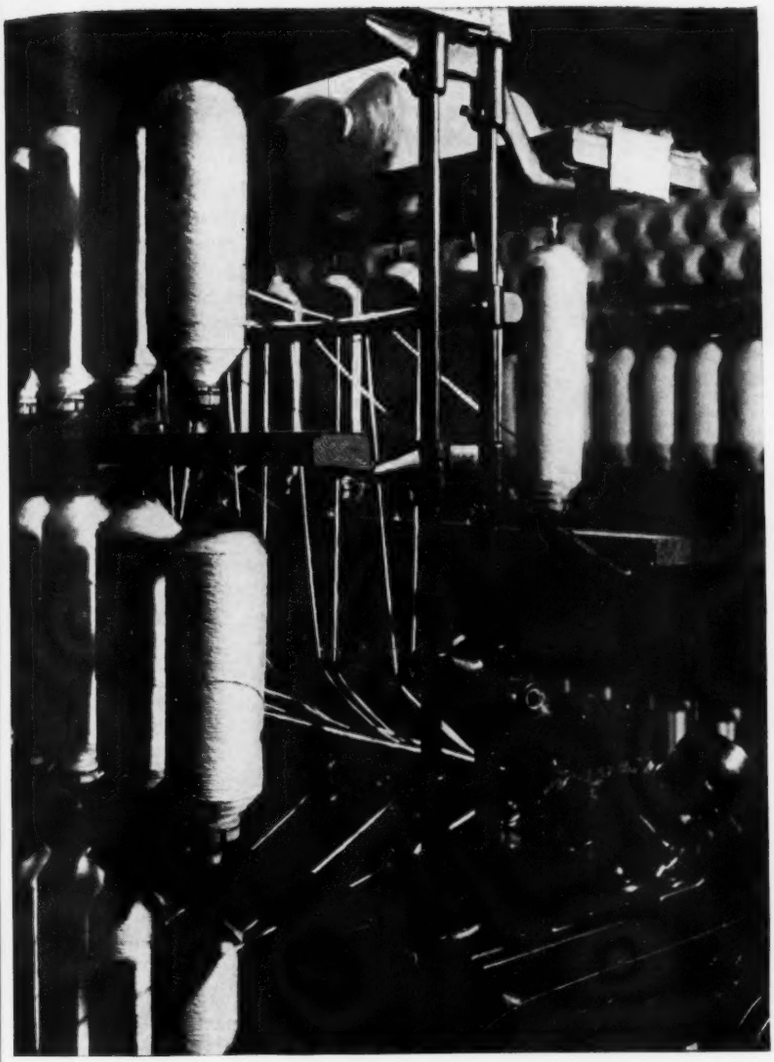
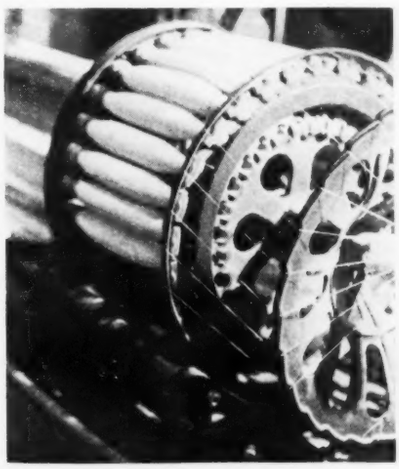
Abstract of articles appearing in the October and November issues of *Parks' Parables.*

# Pequot In Pictures

**PEQUOT MILLS,** Salem, Mass., has prepared a pictorial sequence which dramatizes in eye-catching form the processes from cotton bale to finished sheet and pillow-case. Four interesting shots are shown herewith. Pictures are by Herbert Matter and publicity is being handled by Constance Hope Associates.

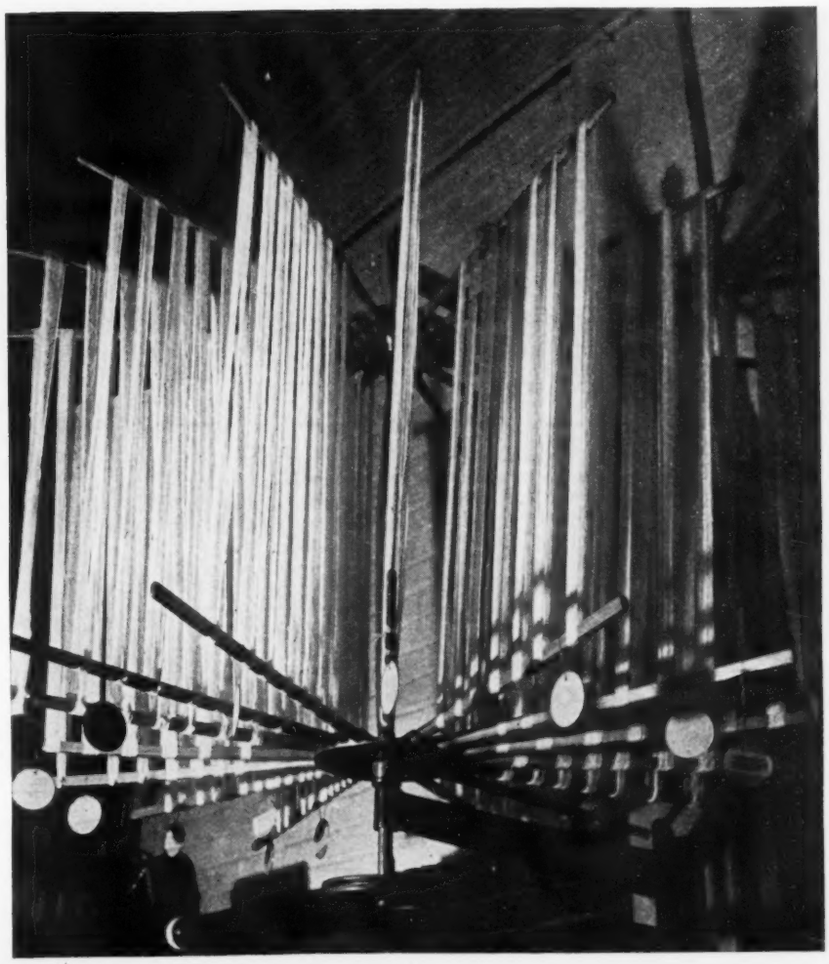


An unusual photographic angle on a spinning frame



Close-up of filling magazine

The "Winnie May"! This mangle was installed when Wiley Post was on his round-the-world flight in the plane "Winnie Mae", and naming it was a flight of imagination by the mangle crew—mispelling and all! Pequot boasts a companion machine now named "Mary-Lou" and there is friendly rivalry between the two crews



At right: light and shade in the laboratory —skeins awaiting test for breaking strength

# Thomas Marchant Dies

**THE COTTON-TEXTILE INDUSTRY** lost a leader last month when Thomas M. Marchant, president of Victor Monaghan Co., Greenville, S. C., died suddenly after attending a football game at Clemson College. The suddenness of his passing was a great shock to all who knew him.

Tom Marchant—as he was known to employers and employees alike—was far more than head of one of the industry's most successful companies. He was a far-seeing humanitarian who for many years gave unstintingly of his time and energy in an effort to improve the industry both economically and socially.

Born July 8, 1880, on a farm in Greenville County, Mr. Marchant was one of eight children. His father was superintendent of the old Batesville Mill during the Civil War, but had left it to take up farming.

When Victor Mill, near Greer, S. C., was erected by the late Lewis W. Parker, young Tom secured a combination job as office boy and supply clerk. He once told the writer that he might have been a professional baseball player had not a broken finger sidetracked him into this job. Soon recognizing Mr. Marchant's ability, Mr. Parker sent him to Greenville in charge of supplies and purchasing for six or eight mills of the Parker group.

Thomas M. Marchant

By 1912, he was in charge of manufacturing of the 16 mills operated by Parker Cotton Mills Co., and a few years later, when only 42, succeeded the late W. E. Beattie as president of what is now Victor-Monaghan Co.

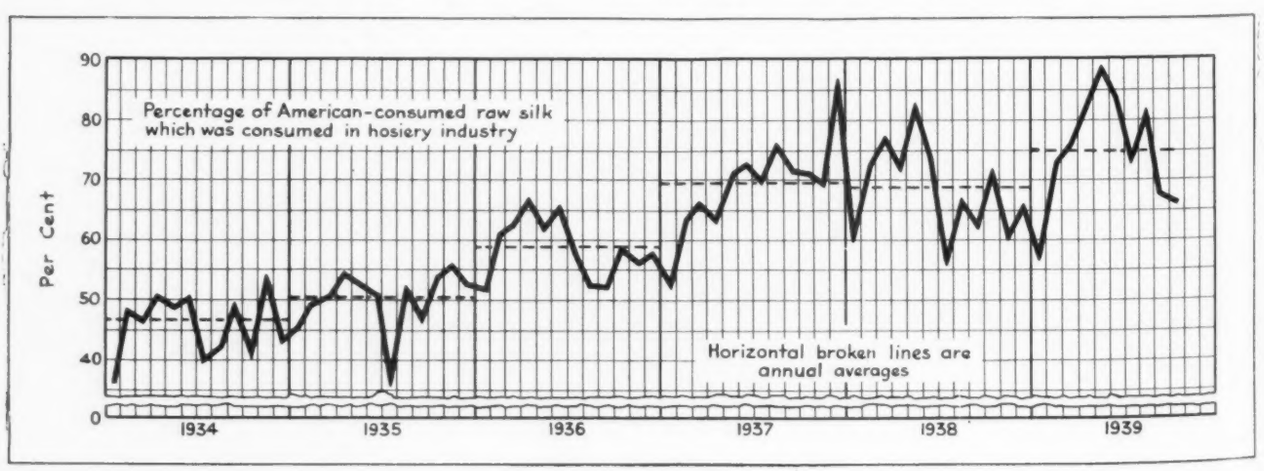
For several years, he devoted his efforts toward building Victor-Monaghan into one of the most important print-cloth groups in the South. Then, in 1933, the southern mill men asked him to take the helm as president of the American Cotton Manufacturers Association. Throughout that hectic year, as NRA came into being, Mr. Marchant, at the expense of his private interests, gave freely of his time to help coordinate a torn-up industry's policies. When he turned the reins over to his successor, the outlook of the industry had been revolutionized, and there is no doubt that he and other forward-looking manufacturers played a definite part in bringing about many of the basic improvements apparent ever since.

Mr. Marchant's most intense interest, beyond his regular business duties, was the textile worker. He directed a great part of his energy toward trying to improve the earning capacity and working condition of the man in the mill. For many years he urged elimination of night work for women, and always bitterly fought employment of children under 16 years of age.

Many throughout the industry gave out statements in recognition of the loss caused by Mr. Marchant's death. George A. Sloan, former president of the Cotton-Textile Institute, expressed the thought in the minds of all of them when he said: "I shall always cherish the memory of our intimate relationship during the long period when Tom Marchant gave so much of his strength and leadership in working for the betterment and progress of the industry that was so much a part of his life. Those of us who loved and admired dear old Tom (and our ranks are legion) will never forget his comradeship, his charming personality, his devoted service in the common good and his great and noble spirit."

# Hosiery and Raw Silk

**THE STATISTICAL DEPARTMENT** of the National Association of Hosiery Manufacturers has recorded monthly since January, 1934, the amounts of raw silk used by the American hosiery industry. These figures, expressed as a percentage of the total raw silk consumed in the United States each month, are charted below. The rising importance of hosiery as a raw silk consumer during the last six years is clearly shown. For the first ten months of 1939, the percentage averaged fractionally over 75%.



# TEXTILE PERSONALITIES

Arthur K. Winget

**ARTHUR K. WINGET** is more than a good mill man . . . he is a corking good merchandiser. He may not have been born a merchant but he got under way in that direction when very young for he was clerking in a Gastonia, N. C., dry-goods store when he had to stand on a cracker box to see over the counter.

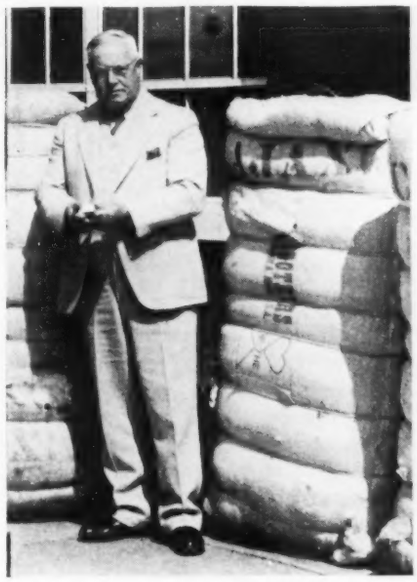
In 1909 he went into the textile business with Colonel C. B. Armstrong. It was a three-man organization, for he, Colonel Armstrong and one other ran the whole show. Mr. Winget held various positions with the Armstrong interests as the years went by, and grew in ability and influence, for he was office-manager, assistant-treasurer, treasurer, and director of not one but several mills. One of the most important plants in the chain was named for him, and today, as part of Textiles-Inc., it is still the "Winget." After a period with Textiles-Inc., he became president of Efird Mfg. Co. and moved to Albemarle, N. C.

He would rather fish than do anything else. He started fishing as soon as he was big enough to hold a pole and he's around 55 today. But he has found plenty of time between running a successful business and being a successful fisherman to be, also: president, Southern Combed Yarn Spinners Association; president, N. C. Cotton Manufacturers Association; president, Albemarle Chamber of Commerce; chairman, A.C.M.A. Cotton Committee; and director in both Durene Association of America and Cotton-Textile Institute.

**PERCHED HIGH** up on the Blue Ridge mountains, at Tuxedo, N. C., is a small combed-yarn mill operated by chubby, genial Robert W. Boys. Before coming to Tuxedo and changing a mediocre plant into one of the best of its kind in the business, Mr. Boys was active in various parts of New England. Born in England, where his father and grandfather were in the textile trade, Robert Boys migrated to New England as a young man. Through a succession of jobs, each one better than the previous, he hit his stride and started up Goodyear's first cotton tire-fabric mill in Connecticut. A few years later, he took an even bigger assignment in laying out and organizing the cotton division of Farr Alpaca Co. The next ten years saw him as agent of four of these plants, but in 1932 he decided to take life easier by moving to the North Carolina mountains.

Mr. Boys, despite his busy commercial life, has always found time for the broader phases of associational and civic work. He is a past president of the Textile Club of Boston and was 25 years president of the Southern New England Textile Club. He has long been interested in Boy Scout work, Y.M.C.A. work, Community Chest drives—in fact, anything for the good of the community and particularly young people. The Robert W. Boys Athletic Field, at Tuxedo, was dedicated to him some time ago.

Long an exponent of cotton bagging, Mr. Boys is shown here along with one of the first bales of cotton to be wrapped in cotton bagging.



Robert W. Boys

Miss Irene L. Blunt

**SHE TOOK** a clerical job with the old Silk Association of America in New York back in 1916 just after she had finished school. There was a war on and some extravagant wages were being paid in war-baby industries. So this young graduate said to herself she would stay for a short time for the experience and then go out and get a "good job." The "short time" has stretched to relative permanency, and that young lady is now in the top rank of trade association executives. She is known to most of our industry as Irene L. Blunt, secretary of the National Federation of Textiles, a new name for the same association. Trade association is her gospel, and, after taking a course at Northwestern University on the subject, she was for ten years a member of its faculty and for three years of its board of managers. She has been president of the Trade Association Executives in New York.

Miss Blunt's hobbies outside of her association are few. For relaxation she reads biographies because of her fascination in people and causes.

At one time or another Miss Blunt has handled all the multitude of activities that come under an association's roof. She has made particular contributions in the fields of statistics, arbitration, misbranding, quality standards and design protection. In the last named field she started the Design Registration Bureau in 1928.

# Wage-Hour and Process-Tax News

## Former cracks down on home-work system—Wallace may try a tax again

By BLAINE STUBBLEFIELD
Washington Office, TEXTILE WORLD

**UNOFFICIALLY THE WAGE-HOUR DIVISION** feels that it put a permanent quietus on the home-work system in textiles when it obtained from U. S. District Court a consent judgment requiring 11 knitted outerwear firms to pay $250,000 wage restitution to 10,000 home workers scattered from Maine to Tennessee. There would be no advantage in home work if legal factory wages must be paid, they say. The Division calls its injunction the "most sweeping in its effect" yet obtained under the new law.

Harold R. Lhowe, former director of the Hand Knitcraft Institute, commenting on the decree, said it would have been more fair if Wage-Hour had stated that legal status of home workers for a long time was not clarified; that the Institute had requested regulations before effective date of the law; that the Institute was set up at request of Wage-Hour officials; that the Administrator was advised of all steps taken by the Institute; that the Institute itself co-operated freely in the investigation. Wage-Hour Division is sitting on its injunction and letting the other side have the last word.

The southern cotton manufacturers' challenge of Government authority to standardize wages will be argued before the Fifth District Court at New Orleans in January. Thirteen intervenors have now posted $10,000 bond apiece on the case filed by Opp (Ala.) Cotton Mills, contesting the textile wage order which raised the statutory minimum 2½¢ to 32½¢. Two identical suits have been filed in Arkansas (Eighth District), with no intervenors so far. Opinion here in Washington is that lack of $10,000 prevented many firms from posting bond. The Eighth District cases will not be argued until after completion of presentations in the Fifth. In the opinion of labor attorneys, appointment of another liberal judge to replace Butler on the Supreme Court will further strengthen the Government's chances of eventual victory.

The President appointed Harold Jacobs, who was Deputy Administrator, to be titular Administrator merely to legalize the actions of the Division until Congress in January can authorize F.D.R. to confer the Administrator's title upon Colonel Philip Fleming, who meanwhile, is the actual boss.

Readers may have heard about some reorganizing in the Wage-Hour Division. This merely changes the names of three sub-divisions, whose chiefs are now reporting to the administrator instead of to a deputy administrator. The three divisions function in connection with the industry committees. Fleming, like everybody who moves in on a job, felt that he could get better efficiency.

**AGAIN THAT UTOPIAN DAY-DREAM** about processing taxes is lurking in New Deal minds, and Secretary of Agriculture Henry Wallace might try it on the next session of Congress. President Roosevelt stands his ground that the farm benefit program must be self supporting, and Mr. Wallace is forced to attempt this drastic move in the face of determined opposition.

This is approximately the scheme that will be proposed: The Secretary would estimate, in advance of Aug. 1, the requirement of cotton for domestic use. He would also estimate what the U. S. pegged market price would be. Then the difference between parity or the cost of production (whichever is higher) and the market price, would be the price at which "certificates" would be sold to processors. Thus, if cotton price was 8¢, and parity 14¢, the certificate would cost the manufacturer 6¢. Certificates would be purchased by processors in advance. Proceeds from certificate sales would be distributed as parity benefit payments direct to farmers.

On the surface, it's a beautiful job of political rigging. It would relieve the Administration of imposing general taxes in an election year, and would excuse the treasury from collecting them. Even cleverer, it would shower down Roosevelt gold on farmers just before election, but retail price consequences would not take effect on consumers till later on.

On the other side, some Capital farm experts say smart cotton growers aren't going to like it. Those producers realize that their foreign market is being destroyed by ballooned prices at home, and they are aware that the war-boom export of raw fiber is a long time coming, might not come. They know too, that the certificate system is another form of price fixing, and they are against it in principle. Of course processors will cry to heaven as they did before. And farmers who want to be friends with processors will sympathize with them.

Political experts here say the process tax will fail, because the Democrats won't want to solve a nasty problem for the Republicans, neither will the Democrats want to try an experiment that might blow back in their faces at a critical time. They say there will be new, straight-from-the-shoulder attempts at *direct* price fixing.

Just prior to the referendum on cotton acreage restriction under the crop-control law, as this was written, it appeared likely that the vote would be affirmative, though by a smaller margin than last year. Authorities in the Capital said that sentiment is increasing against limiting a crop which goes so largely into export. Yet, they admitted, control probably should be continued for the present. The war in Europe makes uncertain the volume that will be needed there. Abrogation of the trade treaty with Japan would curtail the outlet in the Orient. The more than 10,000,000 bales owned or held in hock by the Government further mitigates against unrestricted production.

Behind his huge desk covered with gadgets, his long cigarette holder slanted skyward, President Roosevelt told newsmen he had asked Secretary Wallace to prove his case for a cotton loan. Wallace's announcement that loans on the 12,000,000-bale crop would be at the rate of 8.3¢, the same as last year, was taken to mean that he had won his point. The Budget Bureau did not deny that it had opposed the loan this year, and it is said pressure was brought on the President against it from several directions. Many producers, not knowing what to expect, slid their cotton into the market sans loan. Estimates as to how much of the remainder will be put in Federal pawnshop are so varied as to be useless.

Steel shelving in new stockroom at Swift Mfg. Co. safeguards against fire and vermin

# Modernized Stockroom

## Aids maintenance-department efficiency decreases time for repairing machines

By FRED J. MILLS
Storekeeper, Swift Mfg. Co.

**SWIFT MFG. CO.,** operating three large mills in Columbus, Ga., is engaged in the manufacture of colored cotton goods. Several years ago, when our stock room was built and equipped with wood bins, it served adequately. Naturally, as our mills increased in size and equipment, the number of parts for maintenance increased until it was necessary to inventory approximately 7,000 parts. The wood shelving, which originally did a good job, no longer fitted our needs; in fact, we found it necessary to store more than one part in a single bin. Realizing that our stockroom equipment was not serving so efficiently as the mill itself, we decided to modernize our storage facilities.

Our first thoughts, of course, turned towards steel. We knew that steel would serve a great deal better from a fire-hazard viewpoint because it was non-flammable; we knew it would not be a breeding place for vermin and rodents; we knew it was flexible, in that it could be readily adapted to any changes in repair parts and supplies required.

Of course, we wanted the most efficient stock room we could secure for our type of business. We decided, therefore, to call in outside experts who were widely experienced in the correct and efficient storage of maintenance supplies and materials. After studying our problem from every angle, conferring with our storage, production, and record departments, these experts drew up and submitted a complete plan designed to meet our particular requirements. This plan was analyzed carefully and finally adopted. As a result, steel shelving supplied by Lyon Metal Products, Inc., was installed throughout the entire stock room.

**RESULTS** of the actual operation of the new modernized stock room are interesting. They include: (1) There is a definite saving of 20% in floor space, due to having correct size bins that could be quickly changed to meet actual stock quantity changes; bins are all within easy reach of our stockmen from the floors; racks are arranged in well-laid-out aisles to correct width; all this resulted in an estimated 10 to 12% saving of time in filling requisitions; (2) The fact that we now have a bin for every part makes it simpler and quicker to find a requisitioned item; we have but one man for each shift to take care of the requirements of three large mills, which illustrates the efficiency of the new arrangement; in addition, we know we have a separate bin for each part, which makes it easier to maintain a proper inventory balance, and we also know that additional bins can be quickly provided; (3) Items damaged by vermin which naturally breed in wood shelving amounts to an actual dollar and cents loss; use of steel has practically eliminated these pests; (4) Quicker and more efficient service has eliminated the waiting time at the stock room window of fixers or repair men who have come after some part; this naturally reduces the time that a production machine is down, due to the breaking of some necessary part; (5) Our stockmen, with more efficient equipment, are able to be better "housekeepers"; in fact, they take great pride in the clean, orderly stock room shown in the accompanying illustration.

To sum up, we have found that our new modern stock room has increased the efficiency of our maintenance department; reduced the fire hazard; enabled us to maintain a more balanced inventory; and assisted materially in reducing the time our manufacturing machines are down for repairs or replacements.

# Spun-Rayon Symposium Held

## Modern methods of spinning, weaving, finishing discussed at A.S.M.E. meeting

**BECAUSE OF** the rapidly increasing use of rayon staple, a large part of the annual meeting of the Textile Division of the American Society of Mechanical Engineers, held Dec. 6, in Philadelphia, was devoted to discussion of the latest developments in handling this fiber in the mill. Modern methods of producing spun-rayon and blended yarns were described by Carl D. Brandt of Whitin Machine Works. Albert Palmer, of Crompton & Knowles Loom Works, presented a report of a survey on trends in weaving blended fabrics. Processes employed in finishing fabrics containing rayon staple were outlined by Dr. Harold De Witt Smith, of A. M. Tenney Associates. Extensive abstracts of these three papers on spun rayon are given on this and following pages.

Other features of the meeting of the Textile Division were addresses on "Engineering Possibilities in the Cutting-Up Trade," by Alfred C. Abrahams designer and stylist; "Engineering Aspects of Textile Technology," by Prof. Edward R. Schwartz, Massachusetts Institute of Technology; "Testing the Stiffness of Yarns and Twines," by Donald C. Scott, Ludlow Mfg. & Sales Co.; and "Factors Influencing the Design, Selection, Operation, and Maintenance of Machinery Used in the Application of Fast Dyes to Cellulose Fibers," by Ormand W. Clark, Calco Chemical Division, American Cyanamid Co. A report of this part of the meeting will appear in our January issue.

# Producing Spun-Rayon Yarns

## Developments in blending, opening, picking, carding, drawing, roving, and spinning

By CARL D. BRANDT
Whitin Machine Works

**RAYON STAPLE** is a man-made fiber; hence, many of its physical qualities can be rather nicely controlled. Among these are fiber length, diameter, luster, crimp, etc. However, in spite of the producers' extreme care and control of the manufacturing processes, slight chemical variations often exist between different lots. These differences become evident as the stock is processed and finished at the mill. In cotton manufacturing the blending of a number of bales is one of the essential steps in keeping yarn quality uniform, and as many as 25 or more bales are laid out and fed simultaneously to the openers. Today, the staple-fiber mill does not mix lots, but keeps each one separate. It is, therefore, essential that the mill follow through and keep an accurate check on the progress of individual lots.

As an example of the staple character of stock that many mills would probably wish to run, three fiber distribution diagrams are shown. These illustrate staple rayon, cut worsted top, and long-staple cotton. From the manufacturing angle, the rayon offers the best distribution and certainly should allow the best degree of fiber control during the drafting processes. The uniform length makes possible close settings on all machines employing roller drafting and, therefore, a more even product should be obtained. Due to this better control, it is quite possible to employ higher drafts throughout the various processes.

At present, the two most widely used rayon staple fibers are the viscose and acetate. The viscose type may be obtained as fine as 1¼ den.; the acetate fineness limit is approximately 1½ den.

Cut-worsted top and cotton are often employed with rayon staple fiber in various blends. It will be readily seen, however, that when this is done, the introduction of increased amounts of short staple will render the subsequent roller drafting more difficult. This is so because an increase in the amount of free-floating short staple will make for greater irregularity. Often the appearance of these fancy blends in the different stages of carding and spinning leads one to believe that the material is far more irregular than is actually the case. This is apparently due to the fact that the various staples offer varying degrees of resistance to the insertion of twist. These irregularities generally disappear at the spinning frame when the final yarn twist is inserted.

Fibers of different diameters react differently during the manufacturing processes. If a blend is made of, say, a viscose staple fiber of 1½ den. and a cut-worsted top or a 3-den. acetate, one will notice that, throughout the drafting processes, it is the coarser fibers which drop out and settle on the roll beams. The reason for this is the fact that in a field of draft, the coarser fibers tend to come to the outside of the fiber mass, while the finer ones form the core. This is a very desirable feature, as, in fancy blends, it is the costlier and generally the coarser fibers that are wanted on the surface of the yarn. It is often possible, therefore, to obtain the desired effects with low percentage blends of the wool or acetate.

Since acetate rayon staple seems to develop and carry higher static charges than the viscose type, greater difficulty in handling is sometimes experienced. It is a well-known fact that all staple fibers are very susceptible to static and, therefore, temperature and humidity should be nicely controlled throughout the mill. Various treatments, generally applied by the staple manufacturer, have overcome the greater part of this difficulty. In the mill, control of moisture alone is not enough; temperature is also very important. Blends of rayon and wool require relatively high temperatures to insure good-running work.

Any up-to-date mill can successfully handle rayon staple fiber up to 1½ in. in length. The older the equipment, the more difficult this will be, naturally. Worn bearings, eccentric rolls, gear trains with too much backlash, and worn spindles are a few of the troublemakers that will complicate the problem. On the other hand, a mill with modern opening, picking, carding, single-process roving, and long-draft spinning can turn out a range of num-

bers and blends that will meet most requirements. If it is desired to run staple lengths to approximately 2 in., this may be done by making a few minor machine alterations.

**STAPLE FIBER** as it is received at the mill is free from foreign matter and short fiber. Sometimes bales are received in which the fibers are harsh and matted, containing hard, beady pieces. However, this is unusual. Ordinarily, the bulk of the fiber requires only two operations; opening and parallelization.

One method of blending mixes of different kinds of staple employs the regular sandwich stack, as practiced in the woolen industry for many years. Layers of the different fibers, in correct proportions, are laid out on the floor, and the stack is built up until a reasonable thickness is obtained. Quantities taken from the stack vertically are then fed to the lattice-apron feed or hopper directly. The mixture then passes to a beater and into a bin to be conditioned for a time. This stock in the bin serves to feed the hopper of the finisher picker.

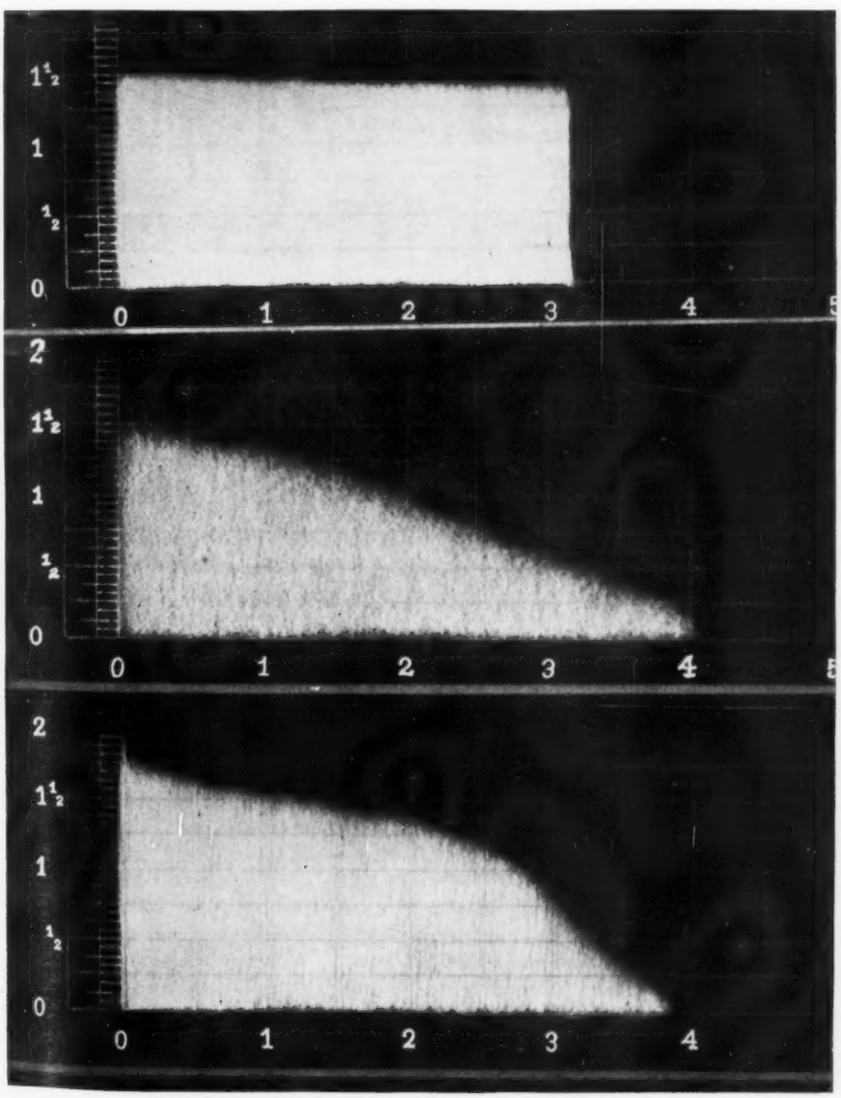
A second convenient layout, especially useful when small amounts of a second fiber are to be added to a larger percentage of rayon, employs a lattice-feed apron and a lap. This lap, correct in weight and containing the effect fiber, is supported on the feed apron. The rayon proper comes from a hopper feed onto this lattice apron and then the mixture passes on to the beater. A lap made by this method will contain a constant percentage mixture. In all work involving the use of different types of fibers, a great deal of worry can be avoided by proper use of tinting mediums. These colors can be conveniently applied at the picker.

In the opening and picking processes no cleaning is necessary. All grid bars can be closed to prevent excessive loss of fiber. Since rayon is denser than cotton, a fairly strong air current at the screens is required to form a compact sheet. Nevertheless, it is sometimes necessary to run in strands of roving at the lap calender rolls to prevent splitting. When running coarse denier stock, three or four strands may be run in on each side of the sheet. To insure the free removal of the lap roll, it may be tapered slightly or covered with a heavy cardboard tube. Kirschner or carding beaters, running approximately 600 r.p.m. will, ordinarily, do sufficient opening. Too much beating will tend to form neppy stock and curl the fiber.

An entirely different arrangement, whereby a Bramwell feed replaces the lap at the card, may be used if the rayon staple fiber has been properly prepared. While this set-up is very convenient for small lots, the matter of floor-space requirements sometimes becomes a problem on large-scale installations.

It is rather difficult to card fiber properly beyond 2½ in., especially in the finer deniers. Coarse rayon fibers will card with less tendency to nep, but since they are not cohesive, trouble will be experienced at the doffer web. The longer and coarser rayons may be carded on the worsted card. On staple fiber, about 6 lb. per hr. is the top rate on cotton cards, but to produce this properly, the card must be in good condition. The 1½-in. staple can be run with little difficulty. A few changes are sometimes necessary to run the longer stock. To prevent loading of the lickerin, a reduction in speed, sometimes below 200 r.p.m., is advisable. Of course, the clothing must be sharp and tight on the cylinder. No turned points are permissible. To prevent too much strips, the flats are slowed down to an inch a minute or so. In fact, they may be stopped entirely and turned over at intervals of 5 or 6 hr. Use of a fancy will prevent the cylinder from loading whenever running 2-in. staples or wool mixes. This arrangement will handle a wool mix of 50% quite successfully. Straight wire and metallic clothing have been tried. The metallic clothing appears a bit too harsh in its action.

**NEW DRAW FRAMES,** which incorporate wider roll stands and larger rolls, have been built to handle the longer staples. The conventional drawing is sometimes used by removing one line of rolls or running an unweighted top roll. The larger rolls are more advantageous, as they allow better control and prevent excessive lapping. Some mill men recommend blending at the




Fiber distribution diagrams—top, 1½-in. rayon staple; center, 1½-in. cut-worsted top; bottom, 1½-in. long-staple cotton

| *Type* | *Staple Length* | *Denier* | *Yarn. No.* | *Twist Multi.* | *Break Factor* |
|---|---|---|---|---|---|
| Viscose | 1½ in. | 1.5 | 30 | 2.75 | 2,050 |
| Acetate | 1½ in. | 3.0 | 18 | 3.40 | 1,200 |
| Viscose | 1⅞ in. | 1.25 | 75 | 2.25 | 2,400 |
| Viscose | 2 in. | 1.5 | 40 | 2.35 | 2,300 |

Relation between twist multipliers and break factor

draw frame, but this is a doubtful practice. Sometimes, very good results are obtained with two drawings; at other times, three drawings appear better, especially on blends. Cushion top rolls are to be preferred in the majority of cases.

Single-process roving is ideally suited to staple fiber, as excessive handling is unquestionably detrimental. Twist multipliers will run from 0.75 $\sqrt{\text{hank}}$ to 1.00 $\sqrt{\text{hank}}$ of the roving to be made. Due to these low twists, the front-roll speed will be rather high. It is advisable, therefore, to reduce the flyer speed at times as much as 20%.

The three changes found beneficial to roving apply equally well to spinning; namely, the use of aprons, enlarged rolls, and reduced spindle speeds. Drafts may be increased somewhat; with rayon staple this may be 20 or 25. Twist multipliers necessary for yarns of maximum strength are, naturally, in the lower brackets. This is illustrated in the above table.

Most mills will run higher twists than those indicated above. This is done to produce a harder yarn and avoid a sleazy finished fabric.

Spooling, warping, and weaving require that yarns be not too weak. Rayon and cut-worsted-top blend yarns possessing a skein break factor (cotton system base) of 1,000 may be processed without too much trouble, although a higher factor would be better. The cotton minimum for warp is approximately 1,600.

The matter of the effect of staple length is apparently still unsettled. Many spinners would prefer to run the longer lengths—up to 2 or 4 in. These yarns might possibly compete with the worsteds. From the standpoint of yarn strength, it is very doubtful if any increase could be obtained by use of fiber much longer than 2½ or 3 in.

# Spun-Rayon Weaving

## Survey shows present methods, indicates future avenues of progress

By ALBERT PALMER
Crompton & Knowles Loom Works

**IN A BRIEF PERIOD** of eight years domestic use of rayon staple fiber has progressed steadily from about 3 million pounds per year to the present rate of about 100 million pounds per year. Indications are that this growth will continue. For this reason, a survey of the weaving and the use of fabrics made from rayon staple alone or blended with other fibers, such as cotton, wool, silk, and mohair, is not without point. The principal uses to date for fabrics made from these fiber blends have been for women's dress goods and sports wear for men and women. A substantial yardage has gone into the manufacture of men's summer suits. Another important and large potential use is in the heavier suitings; namely, those weighing 12 oz. per yd. and more.

Despite the large output, many questions remain to be answered relative to blended fabrics. There is a wide range of ideas concerning the manufacturing procedure and the resulting product, primarily because two entirely different types of mills and two entirely different types of clothing manufacturers are involved. On the one hand, there are the cotton mills which produce narrow goods for the consumption of that section of the clothing trade which is engaged in the manufacture of women's wear and men's sports wear and summer suits. On the other hand, there are the worsted and woolen mills which manufacture wide goods for the cutters-up who make men's suits for business wear.

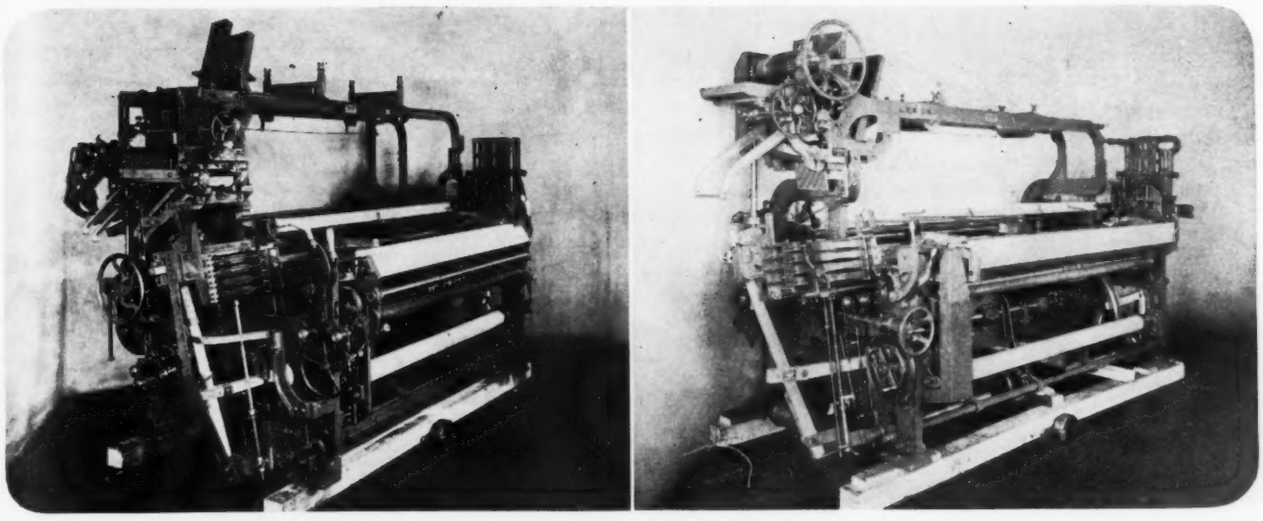
So far these two divisions of the trade have followed their conventional methods of operation, because their equipment has governed this procedure. Admittedly, however, there are economies to be derived from standards more suitable for the handling of blended fabrics. Somewhere between these two extremes there is an intermediate ground, which, if adopted, could enable the clothing trade to operate with a maximum degree of efficiency and which would permit the mills to sell their products over the entire market, rather than to only one section of it.

A survey of mills which are making blended fabrics indicates that automatic bobbin-changing looms of both the single-shuttle and multi-shuttle types are in general use. In cotton mills these are narrow dobby looms, the majority of which are in the neighborhood of 45 in. in width between swords. In the worsted and woolen mills automatic bobbin-changing looms also are used, mainly of the multi-shuttle type, equipped with Knowles heads, and either 82 or 92 in. in width between swords.

Numerous discussions have taken place within the last year relative to cloth width. The consensus among forward-looking clothing manufacturers seems to be that goods in the neighborhood of 60 in. wide are most desirable for the manufacture of men's apparel. Naturally, this conclusion was reached without reference to the existing equipment, but with the sole purpose of determining the cloth width which is most ideally suitable for the manufacture of this type of apparel. Thus, a working base is established, from which, with information concerning the contraction, the most desirable widths of looms can be established.

Information available concerning the contraction of blended fabrics is somewhat contradictory. In general, however, an allowance of 6 in. appears to be within reason. Allowing an additional 6 in. for the difference between the reeded width of the cloth and the between-swords measurement of the loom, one should add a total of 12 in. to the finished width of the cloth to determine the width of loom required. The conclusion, then, is that a loom 72 in. in its between-swords measurement will cover the general range of blended fabrics that are being produced.

A consideration of the harness capacity of the most suitable looms also is important. Generally speaking, the looms which are being used by the cotton mills are equipped with dobbies of 20 or 25 harness capacity. The mills which favor dobbies feel that they are more simple and are capable of running at a higher speed than the Knowles head. On the other had, those which favor the Knowles head contend that it makes a cleaner shed and that its greater strength is better suited for the type of weaving in question. While dobbies are satisfactory for narrow looms, they are not so suitable for wide looms, such as those 72 in. between swords and wider. Of course, there are instances where dobbies are being used on wide



Two types of modern looms which are gaining favor for weaving spun-rayon blends are the C-4 and W-2 models

looms with apparent success. However, as a general conclusion, it is safe to say that the Knowles head is more suitable for the loom that will weave blended fabrics of wide widths.

**BLENDED FABRICS** at present are being woven on both single-shuttle and multi-shuttle looms. Here again, the present operating practice is dependent upon the equipment which the mills now have, rather than upon conditions of a more fundamental nature. Generally speaking, on plain goods that are to be piece dyed, the results are reasonably satisfactory with a single shuttle, provided care is taken in the making of the yarn. However, on colored yarn, or on yarn which is at all uneven, filling mixing through the medium of two or more shuttles is a necessity in the prevention of streaked effects in the goods. A multi-shuttle or box loom, of course, is required to take advantage of cross-dyed effects, yarns of different twists, and the fancy filling effects that frequently are used in dress goods and suitings. Thus, while the immediate demands may be for plain or printed fabrics, it seems logical to conclude that multi-shuttle looms provide sufficient flexibility to enable designers to take advantage of future developments.

The choice of the mills that are installing new automatic looms for weaving blended fabrics seems to depend upon their past experience. Those that are accustomed to worsted manufacturing specify worsted looms, such as the W-2 looms; those who have been engaged in cotton manufacturing take wide cotton looms, such as the C-4 looms.

To date, these new automatic looms for weaving blended fabrics have been built with a standard shuttle to take a bobbin $8\frac{3}{4} \times 1\frac{3}{8}$ in., carrying 90% more yarn than the $8 \times 1\frac{1}{8}$-in. bobbin used with the old, narrow cotton looms which are being used for this work. Thus, the handling, the number of transfers, and the possibility of defects are reduced appreciably, despite the wider width and the high speeds of these new machines. Likewise, in the new looms which are being installed, beams with 24 in. diameter adjustable flanges are being used; these increase the amount of yarn in the warp by approximately 75%, thereby minimizing lost time and handling in the weave room and making possible savings in the preparatory departments. Again, the diameter of the roll of cloth that can be made with a modern loom is usually 20 in., as compared with 14 in. on the older loom; inasmuch as the yardage in these larger rolls is double that of the smaller, the handling of cloth is facilitated.

Incorporated in these new looms are details of construction which are of particular interest to cotton mills that have gone into the production of blended rayon fabrics. For example, the picking motion is of the batwing type known to the worsted mills but not so familiar to the cotton mills, where the cone picking motion has been used. Again, the filling stop-motion is in the center of the loom, following the worsted practice.

**IN WEAVING** spun-rayon and blended fabrics, the practices of the mills vary considerably. For instance, in the matter of sizing for the warp, there is no uniformity of opinion relative to the best method. The mills all agree on one point; namely, that in the sizing operation the warp should not be stretched. A maximum limit of 2% stretch has been set in some instances. Another point upon which there is a reasonable degree of unanimity is the temperature at which the sizing operation should be carried on. All the mills agree that it should be less than the corresponding operation for cotton. The exact temperature of the size box varies from mill to mill, but the average condition seems to be in the range from 150 to 160° F.

The greatest variation in practice relates to the sizing material itself. Some mills are mixing their own from various substances, but the majority apparently are buying their size from manufacturers who specialize in this field.

The methods for handling filling also vary greatly. In general, the bobbins used are 8 in. long and are wound to a diameter of $1\frac{1}{8}$ in. In some mills the yarn is spun directly on the bobbins; in some, it is rewound. The practices of the cotton mills in handling cotton yarns are followed, although there is a tendency toward a longer traverse in building the bobbins. In the majority of instances, the traverse is from $1\frac{1}{8}$ to $1\frac{3}{4}$ in. in length.

At present there is no uniformity concerning the conditioning of filling. Some mills make no attempt to condition it, some steam it slightly. Apparently where the yarn is treated, it has a twist multiplier which is higher than 4.

The shuttles and shuttle eyes that are being used are the same as, or very similar to, the shuttles which the mills have been accustomed to using. The worsted mills use shuttles of the worsted type; the cotton mills, shuttles of the cotton type. The shuttle eyes are of the open type commonly found in automatic shuttles and are used with and without tension pads. Nearly all the mills, however, use fur in the shuttles, particularly near the tip of the bobbin, although there are cases here and there where bristles or flannel are employed.

Take-up-roll covering is another material about which there is no agreement. At the present time sandpaper, perforated tin, perforated steel, and va-

rious types of material made of cork and rubber alone or in combination are being used.

The humidity which is maintained in the mills that are weaving spun-rayon blends is an important matter. Generally speaking, the survey showed that those with a worsted background do not favor humidity, whereas those with a cotton background maintain a degree of humidity not exceeding 60 to 65%.

Maintenance of uniform atmospheric conditions in the weave room is highly important. If the humidity changes, loom stoppage results because of the altered physical characteristics of the bobbins, shuttles, binders, and let-off parts, not to mention the yarn itself. Not only is production increased, but also quality is improved by close control of atmospheric conditions, since every stop is a potential cause for a defect in the cloth.

The information in and conclusions of this paper are based upon a survey which included interviews with clothing manufacturers, converters, dyers and finishers, mill selling agents, mills, and manufacturers of rayon staple fibers, as well as various organizations which, although not directly in the textile industry, are closely associated with it. Although in some respects there is a meeting of the minds, there is, in general, a great difference of opinion concerning the manufacture of fabrics of spun rayon alone or blended with other fibers. The situation indicates the necessity for further and more extensive studies on the part of the rayon producers, the machinery manufacturers, and the mills.

# Spun-Rayon Finishing

## Selection of methods is influenced by properties of viscose and acetate rayon staple

BY HAROLD DEWITT SMITH
A. M. Tenney Associates, Inc.

**THE PRESENT PAPER** first points out the distinctive characteristics of the two types of rayon staple produced commercially in the United States in comparison with the corresponding characteristics of wool and cotton. The principal operations in dyeing and finishing are then discussed with particular reference to the attainment of the desired characteristics in the finished fabric.

The most important physical characteristics of viscose and acetate rayon staple with respect to behavior during finishing and the properties of the finished fabrics are: specific gravity, strength and elongation, resilience, moisture absorption and swelling, and thermoplasticity. The chemical characteristics of rayon staples which are important to the dyer and finisher include the affinity for dyes and the influence of such chemicals as acids, alkalis, oxidizing agents, and finishing materials.

The specific gravity of fibers is given in the second column of Table I. The significance of specific gravity is that, other things being equal, the lower the specific gravity of a textile fiber, the better are the cover and fullness which can be obtained from a given number of yarns of a given size or count. Table II gives data on wet and dry strength. In considering strength in relation to dyeing and finishing operations, two things should be remembered. First, the strength of the yarn and of the fabric depends not only upon the tensile strength of the fiber substance, but also upon the fiber fineness and length, yarn twist and count, and fabric construction and weave. Second, the breaking strength is not so important as the resistance to stretching at loads well below the ultimate strength of the fabric. As regards resilience, viscose is rather similar to cotton, whereas acetate is much closer to wool.

**TABLE I**

| Fiber | Specific Gravity (Air Dry) | Moisture Regain (In per cent) (at 65% R.H.) | (at 100% R.H.) | Swelling in Water (% Cross-Sect. increase, air-dry to wet) |
|---|---|---|---|---|
| Silk (boiled off) | 1.30 | 11.5 | 35 | 41 |
| Wool (scoured) | 1.31 | 14.7 | 33 | 32 |
| Cotton (scoured) | 1.54 | 7.0 | 21–27 | 44 |
| Viscose | 1.54 | 13.1 | 45 | 35–52 |
| Acetate | 1.32 | 6.0 | 18 | 9–14 |
| Nylon | 1.14 | 4.1 | 8 | |
| Glass | 2.60 | 0.0 | | 0 |

The amount of moisture which various textile fibers absorb when exposed to various relative humidities from zero to full saturation is indicated in Fig. 1. Table I in its third column gives data on moisture regain. Although the effect of moisture and swelling on strength and resistance to stretching is adverse, the softening of textile fibers by moisture improves their receptivity to dyes and chemicals and their flexibility to mechanical working and, therefore, contributes to their successful manipulation in dyeing and finishing. When the influence of heat is added to that of tension and of moisture, the relative behaviors of the fibers are further altered. Fig. 2 illustrates this point.

**TABLE II**

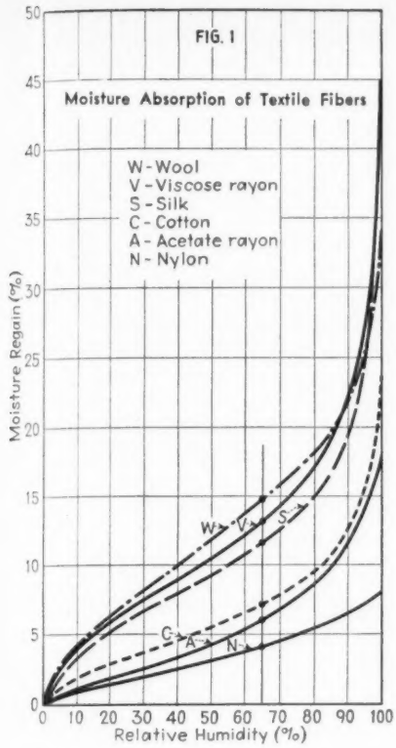
| Fiber | Air-Dry Strength (Grams Per Den.) | Wet Strength (As % of Dry Strength) |
|---|---|---|
| Cotton | 2.7–5.9 | 110–120 |
| Wool | 1.2–1.7 | 80–90 |
| Silk | 2.8–3.3 | 75–85 |
| Acetate | 1.3–1.7 | 65–70 |
| Viscose | 1.8–2.2 | 45–55 |

Viscose rayon staple has an affinity for the same dyes which are used on cotton or linen, but it shows a greater absorption for these dyes than do the natural fibers. Acetate staple is, in general, resistant to the dyes used on other fibers and is dyed with so-called acetate dyes. Recently, there has been a great deal of experimentation on methods of dyeing acetate with other dyes. For example, a considerable volume of acetate yarn is dyed with acid dyes using a bath containing alcohol. Dyeings done in this way are unusually fast to boil-off and washing. Further, one or two of the finishers are now successfully dyeing acetate fabrics with vat dyes in pastel shades.

With respect to acids and alkalis, a good general rule to remember is that mineral acids are the enemies of viscose staple, and all alkalis are enemies of acetate staple. Viscose goods are often given a preliminary treatment in caustic soda solution to swell the fibers and improve the fullness of the fabric. Treatment of acetate rayon in hot alkaline liquors causes a saponification, or splitting off of acetic acid, with consequent regeneration of cellulose. This saponification is to be strictly avoided because it tends to destroy all of the properties for which acetate is valued.

**THE ACTUAL FINISHING** and dyeing operations as influenced by the physical and chemical properties of the two types of rayon staple may be summarized as follows:

The warp size on spun-rayon goods is usually made with a base of either gelatine or starch and dextrin. Gelatine size should be completely remov-



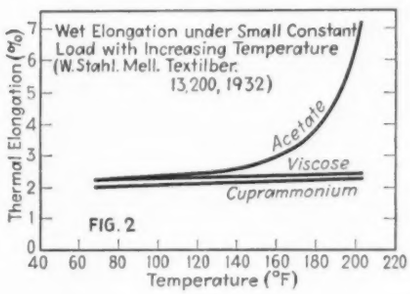

able in the course of a proper wetting out and boil-off or scour. When starches are present, an enzyme treatment is advisable.

Boiling-off and scouring should be carried out in a neutral soap bath containing from one-half to several percent of soap, depending upon the other fibers present. For fabrics containing viscose staple fiber, the addition of sodium carbonate, as practiced in wool scouring, is permissible, but in the presence of acetate staple, the pH of the scouring bath should in no case be higher than 10, and a plain soap bath is urgently to be recommended. It is customary to scour at temperatures below 180° F. and, in the case of mixtures with wool, the presence of the latter fiber suggests the advisability of even lower temperatures.

Bleaching is seldom necessary as far as the rayon staple fibers themselves are concerned. However, because of the presence of soil acquired during spinning and weaving, or in fabrics containing natural fibers which have to be bleached to obtain a whiteness comparable to the rayons, bleaching is frequently employed for whites and very light shades. While viscose rayon reacts to bleaching agents in a manner similar to cotton, it is more sensitive to over-oxidation than the latter. Bleaching with chlorine or hypochlorite is therefore carried out with lower concentrations in a cold, alkaline bath. Peroxide bleaching is very satisfactory because of the control of the rate of oxidation which can be obtained by adjustments of pH and temperature.

For acetate rayon, peroxide bleaching is to be preferred and is often carried out at a pH of between 9 and 10 and a temperature of about 160° F., using approximately 1% of 100-volume hydrogen peroxide. When hypochlorite is used, the bath should be on the acid side (in the neighborhood of pH 5) in order to avoid tendering. The concentration of the available chlorine should be in the neighborhood of 1 g.p.l.

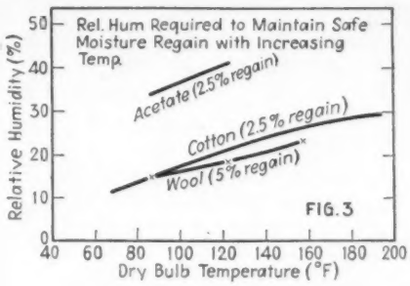
**IN STOCK DYEING,** the load per machine should be reduced because of a tendency of the swollen, softened fibers to mat and form channels. When dyeing acetate-staple tops or spun yarn in package form, dyes with the highest degree of dispersion should be selected in order to avoid the shading which is caused by the filtering action of the package on large particles.




Viscose staple can be cross-dyed with wool so as to leave either fiber white or to produce a two-color effect by the suitable selection of dyes. Solid shades can be obtained by the careful selection of neutral-dyeing union dyes. Mixtures of acetate rayon staple with viscose or cotton may be dyed so as to leave either fiber white or to produce a two-color effect or a solid shade. Mixtures of acetate staple and wool can be dyed in solid shades, so as to leave the acetate white, or cross-dyed in two colors. Because most of the acetate dyes stain wool, it is difficult to dye a mixture so as to leave the wool white.

Fulling of wool fabrics containing either viscose or acetate rayon staple can be carried out safely, provided, in the case of acetate staple, that the soaping solution does not contain any alkali.

Carbonizing will destroy viscose staple as readily as it destroys cotton or other vegetable matter. Therefore, in any blends containing wool which must be carbonized, this must be done in stock form before making up the blend. Acetate staple resists carbonizing, although it is more likely to be damaged than wool. Therefore, if carbonizing of wool goods containing acetate staple is necessary, the concentration of acid and the temperature should be carefully studied. It has been suggested that carbonizing with aluminum chloride is less destructive to acetate staple.


Rel. Hum Required to Maintain Safe Moisture Regain with Increasing Temp.
Acetate (2.5% regain)
Cotton (2.5% regain)
Wool (5% regain)
FIG. 3
Relative Humidity (%)
Dry Bulb Temperature (°F)

Napping or gigging is best done in the moist or wet state, because the fibers are much more flexible in this condition and, therefore, they can be raised with less destruction and breakage.

Softening agents which are applicable to either viscose or acetate include sulphonated oils, fatty alcohol sulphates, and the more recently developed cation-active softeners. The crease resistance of viscose staple, either alone or in combination with wool or cotton, can be improved by the application of resins of the urea-formaldehyde type. The acrylate resins can be used on either viscose or acetate staples, or in mixtures of these with one another or with the natural fibers, to produce varying degrees of softness, crispness, or fullness of hand, according to the particular resin used and the method of application.

**PUBLISHED DATA** on drying are very fragmentary, but Fig. 3 is taken from a study of such data made in 1937 with respect to acetate, cotton, and wool. From practical experience, it is believed that in order to avoid the undesirable effects of over-drying, the moisture regain in wool should not be allowed to drop below 5%; in cotton or acetate rayon, not below 2.5%. The curves show the relative humidity required in the dryer air at different temperatures in order to maintain this safe moisture regain in the fibers. They indicate that, for goods containing acetate rayon, the dryer humidity should be maintained at approximately twice the value necessary for cotton or wool. It is also apparent that, as the drying temperature increases, the relative humidity must be increased in order to prevent over-drying. Air drying is superior to can drying, especially on acetate rayon staple, because the contact of the fibers with hot metal surfaces tends to produce a thin, hard hand and, with excessive temperatures, a glazed appearance.

Fabrics containing viscose or acetate rayon staple fibers can be handled with no special precautions in dry finishing operations, such as steaming, brushing, pressing, decating, shearing, tentering, and calendering.

# War Talk and Golf

## Occupied North Carolina cotton manufacturers at Pinehurst convention

A. G. Myers, head of Textiles, Inc., Gastonia, was elected president of the Cotton Manufacturers Association of North Carolina

**IN CONTRAST** to stormy trade conventions of recent years, there were no fireworks on the program of the Cotton Manufacturers Association of North Carolina, held last month at Pinehurst, N. C. However, between golf and skeet contests, there was considerable lobby conversation relative to the wage-hour law and the menace of increasing third-shift operation. The formal program included an address on the potential effect of the European war on the textile business by Dr. William P. Jacobs, executive vice-president of the Cotton Manufacturers Association of South Carolina.

Pointing out that "from a market standpoint, the present European war has already been discounted," Dr. Jacobs warned that the cotton-textile industry is faced with "greater wars that are growing in intensity and danger." The first of these, he said, is the war of obsolescence and depreciation, "those twin forces which have never lost a battle." Another war is that of high costs which "build inevitable losses and too frequent liquidation." Then there is the war of foreign imports upon our domestic production. And, finally, the most serious war of all is that of synthetic fibers and competitive fabrics upon cotton.

A sober warning was given by J. Harvey White, president of the association, who pointed out that the "cotton textile industry is having one of its periodical sprees and, as a result, we seem to have forgotten the bad headaches of 1933 and 1938. We may rest assured that a 'sobering up' time will come again, perhaps next spring."

Albert G. Myers, head of Textiles, Inc., Gastonia, was elected president of the association. Luther H. Hodges, vice-president of Marshall Field & Co., Spray, was named first vice-president but was unable to accept the appointment. This office will be filled later. W. H. Entwistle, president of Entwistle Mfg. Co., Rockingham, was elected second vice-president.

New directors elected for three years

"M-Day at Pinehurst"—(1) R. C. Moore, (2) J. E. Moore and (3) Harvey W. Moore took the skeet contest—one, two, three! And none of them is related. Winner of fourth place was Robbins Lowe, not shown. (4) Dr. Claudius Murchison, president of the Cotton Textile Institute, won fifth prize

Wm. H. Suttenfield, treasurer of Superior Yarn Mills, Statesville, N. C., watching his opponent drive off the first tee

Left to right: J. E. Millis, president, Adams-Millis Corp., High Point, N. C.; Sproull Graves, New York; Kemp P. Lewis, president, American Cotton Manufacturers Association and head of Erwin Mills, Durham, N. C.; Charles Summers, New York.

Left to right: Alex Davis, Saco-Lowell Shops, Charlotte, N. C.; Erwin Walker, Calco Chemical Co.; J. Holmes Davis, Spofford Mills, Wilmington, N. C.; John Matheson, president, Mooresville (N. C.) Cotton Mills

include J. A. Moore, Edenton, Herman Cone, Greensboro, Harold Mercer, Gastonia, Carl Bishopric, Spray, A. A. Shuford, Hickory, and John W. Clark, Franklinville.

Committee reports were made by Marion W. Heiss, Hunter Marshall, R. D. Hall, Carl Cunningham, Bernard Cone, C. A. Cannon, R. L. Harris, Harvey W. Moore and W. H. Entwistle. Guest speakers included John C. Gall, counsel, National Association of Manufacturers, and Governor Clyde R. Hoey.

Golf prizes were presented by J. D. Sandridge, Charlotte, manager of the tournament. Low net, the Corn Products Sales Co. prize, was won by A. G. Myers. Low gross prize went to Stuart W. Cramer, Jr. Second low net was won by John K. Rutledge, Jr.; second low gross was awarded to J. Holmes Davis, Jr. Other winners were J. E. Millis, Marion W. Heiss, Wesley Heston, C. D. Gray, Fritz Zweifel and F. Dickinson.

# Carolina Yarn Outing

## Annual affair at Pinehurst drew large attendance of textile men

**PINEHURST, N. C.,** the lovely playground of the Southern sandhills, was host to the Carolina Yarn Association, Oct. 27 and 28.

Some 400 members and guests, with guns and golf clubs, gathered to enjoy the program of sports and pastimes. Sam Diggle, who has won fame as a director of golf tournaments, steered the contest with 317 entrants smoothly through to the final stage at the banquet Saturday night, when Penn Wilson took over and awarded 70 handsome prizes. Three of these went to the high scorers, and one of them, for the highest 36-hole score, was a little black pig (shoat, to the agriculturalists) bedecked with bows and ribbons, to assist his new owner in "running all over the course and digging holes in the fairway." Frank Shannonhouse, the recipient, was doubtful as to the necessity of this assistance. A dramatic finish to one match was the long putt holed out by Earl Constantine on the No. 1 course, on which shot the result depended.

In the practice round Thursday afternoon, G. S. Johnston, of Chattanooga, playing the No. 6 179-yard hole on No. 3 course, made a hole-in-one. (Important witnesses were Karl Ginter, P. H. Thompson and Ab Myers.) Witnesses agree this stroke won the hole.

Joe Mason again had charge of skeet shooting, which had many additional entries this year. A new course had been provided, but the problems to the contestants remained the same. Joe was accused of using rubber pigeons by some of those who were not doing so well.

The stables are growing in popularity. Frank Scull, dean of yarn-riders, still favors "Mountaineer" as a mount. Some of the others were not so particular, especially those riding "double."

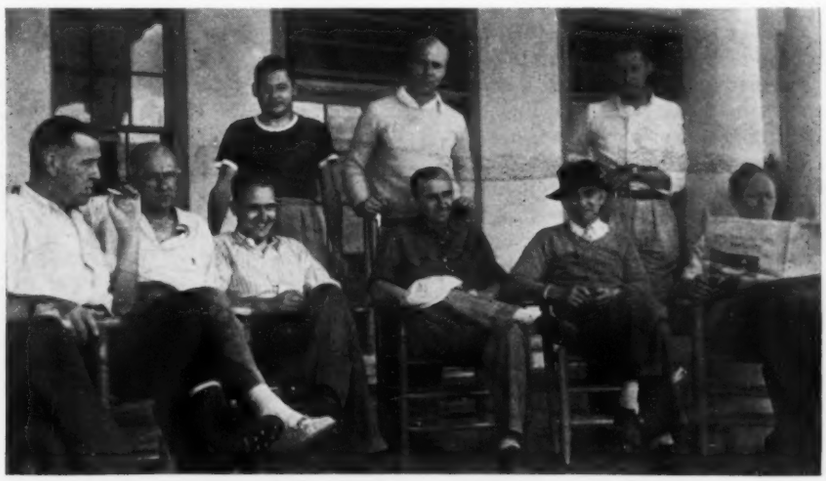
Two splendid floor shows provided entertainment for the evenings. Harry Dalton had charge of this feature. It has been suggested that Harry be reappointed just to see if this year's selection was a lucky accident.

Raleigh Reece, left, American Bemberg Co., Johnson City, Tenn., and Sam Diggle, Dixie Mercerizing Co., Charlotte, N. C.

Guests at the outing included, Earl Constantine, president, and Reuben C. Ball, secretary of National Association of Hosiery Manufacturers, of New York, and Taylor R. Durham, executive secretary, of Southern Hosiery Mfrs. Assn., Charlotte, N. C.

Officers of the association are: Sam Diggle, president, Karl Ginter, vice-president, H. T. Cosby, secretary and Penn Wilson, treasurer.

Fred Lemmond, left, makes his choice. Penn Wilson had charge of the awards.



Representative group on porch at club house. *Standing:* W. A. Tanade, Mitsui & Co.; F. S. Nicholos, Abbeville, S. C.; Dick Salembier, Salembier & Villate, West Point, Conn. *Seated:* Fred Duncan, Golden Belt Co., Durham, N. C.; W. T. Cheatham, E. C. Holt & Co., Burlington, N. C.; Alan Sibley and W. E. Greer, Judson Mills, Greenville; Harry Dalton, American Viscose Corp., Charlotte; Henry Neubert, Deering Milliken & Co., New York

# New Hosiery Finishes

## Latest trend is use of compounds for increasing durability of product

**TWO RECENT DEVELOPMENTS** of intense interest to all hosiery manufacturers are the introduction of Nylon and Vinyon and the bringing out of new finishes designed to increase the durability of silk stockings. To what extent these new finishes will retard the invasion of the full-fashioned hosiery field by strong, elastic synthetic fibers is highly problematical. At present, however, the new finishes are of primary importance to the hosiery industry.

Formerly silk stockings were boiled-off, dyed, and boarded, without the application of any type of finishing compound. A few years ago hosiery dyers began to treat the stockings, after dyeing and before boarding, with various finishing agents for the purpose of producing soft, scroopy, dull, or splash-proof effects, as desired. Some of the finishes were not permanent, being removed as soon as the stockings were washed; some were found to have a harmful effect on the life of the hosiery; one or two seemed to increase the durability of the stockings, but were not widely adopted.

During the last twelve months the newest trend in hosiery finishing—the application of special finishes for the purpose of increasing the durability of the stockings—got well under way. Today several companies are featuring these special finishes under various trade names in their advertising and other sales promotional activities. In general, these new finishes are intended to increase the elasticity and resistance to snagging of the hosiery. Two types of finishing compounds which are commonly employed for this purpose are synthetic resins and rubber or rubber-like materials.

Unfortunately, some mills have shown a tendency to over-estimate what can be expected from a hosiery finish. As a result, they are applying the finish to hosiery which is not properly constructed to start with. Regardless of the finish, such hosiery is not likely to give consumer satisfaction.

Three important properties of full-fashioned hosiery are its distensibility, its recoverability, and its stretch-endurability. These properties can be measured by means of the so-called Frazier machine, which was originally developed by Messrs. Appel and Schiefer of the National Bureau of Standards. The tests made on this machine indicate whether the stocking will fit snugly without binding, whether it will show a tendency to become baggy, and whether the fabric has the ability to resist fatigue. Results of tests made at the National Bureau of Standards on five pairs of 3-thread full-fashioned silk hosiery are given in the accompanying table. This hosiery was bought at retail, and one stocking of each pair was laundered carefully and air-dried before testing.

The tests are too few in number to permit any definite conclusions, other than the fact that the subject of hosiery finishes requires a great deal more scientific study than it has yet received. Note for example, that the laundered stocking with no special finish, selling at 89c. a pair, withstood 5,258 cycles before developing a run, while the laundered stockings with special finishes, selling at 79c. and $1 a pair, withstood tests of 2,371 and 3,007 cycles, respectively.

It will be observed also that the laundered hosiery with no special finish selling at $1.35 a pair withstood only 952 cycles, while that with a special finish selling at the same price withstood 8,591 cycles. Again, in these particular tests, the laundered stocking withstood a larger number of cycles than did the unlaundered one of each pair.

Whether the differences in the stockings shown in the laboratory tests will or will not result in corresponding differences in actual service has still to be found out. An investigation to answer this question has been started.

One of the important properties of silk hosiery which has a decided influence on durability is resistance to snagging. Hence, some of the hosiery companies are emphasizing the increased resistance to snagging imparted by the particular type of finish employed. Tests made by the United States Testing Co., by means of a recently developed snag tester of that company's own design, have shown that some brands of hosiery which have been given special finishes are considerably more resistant to snagging than are other brands which have not been so treated. Other tests indicate that the heels and toes of some of the chemically treated hosiery have greater resistance to abrasion.

There is no doubt that the judicious application of special finishes will enable the hosiery manufacturer to improve his product. At the same time, he should realize that there is a limit to the improvement which can be made by the finish alone and that only by applying the finish to properly constructed hosiery will he obtain the best possible results. Some types of finishes, naturally, are more effective than others. Therefore, the hosiery manufacturer should carefully investigate the various new finishes which are available. He should make, or have made, extensive laboratory tests to determine the effect of these finishes on the elasticity, snag-resistance, and other properties of the stockings, and supplement these with actual wear tests. In addition, accelerated ageing tests appear to be advisable, as it is stated that hosiery which has been finished with certain types of chemicals tends to develop "pop outs" if it remains in stock for several months. Finally, it is important that the finishing agent be properly applied to the hosiery and under controlled conditions which will insure uniformity of treatment from lot to lot.

**RESULTS OF TESTS OF SILK HOSIERY**

| *Sample* | *Gage* | *Retail Price* | *Condition of Sample* | *Distensibility in/lb.* | *Recoverability %* | *Stretch-Endurability cycles* |
|---|---|---|---|---|---|---|
| No. 1 Untreated | 39 | 89c. | Not laundered | 0.12 | 97 | 213 |
| No. 1 Untreated | 39 | 89c. | Laundered | 0.18 | 106 | 5,258 |
| No. 2 Finish A | 42 | 79c. | Not laundered | 0.15 | 101 | 351 |
| No. 2A Finish A | 42 | 79c. | Laundered | 0.18 | 105 | 2,371 |
| No. 3 Finish B | 45 | $1.00 | Not laundered | 0.17 | 105 | 1,557 |
| No. 3A Finish B | 45 | $1.00 | Laundered | 0.18 | 108 | 3,007 |
| No. 4 Untreated | 51 | $1.35 | Not laundered | 0.18 | 107 | 698 |
| No. 4A Untreated | 51 | $1.35 | Laundered | 0.21 | 108 | 952 |
| No. 5 Finish C | 51 | $1.35 | Not laundered | 0.27 | 116 | 4,131 |
| No. 5A Finish C | 51 | $1.35 | Laundered | 0.27 | 119 | 8,591 |

Up-to-date machinery is a necessity to modern hosiery manufacture

# Revamping Full-Fashioned Mills

## Program of machinery replacement and rebuilding essential to profits

BY RUSSELL D. COLLINS

**SEVERAL YEARS AGO** a certain full-fashioned hosiery mill was almost completely shut down because it had tried to live on a reputation gained when it first started up with new machines. Subsequently no improvements had been made in the equipment. Both quality and production dropped to a low level; customers stopped buying. Realizing that something had to be done, the owner hired a new superintendent and told him to get at the bottom of the trouble. The superintendent immediately advised the purchase of new machinery. While the new equipment was on order, there was wholesale rebuilding of the old machines. This move was an expensive one; but it was the only way to revive the business. Today this mill is again selling to all its old customers and has increased its business. The management of this mill has learned its lesson and has adopted a program for keeping its equipment up-to-date at all times. The experience of this mill is a striking proof of the fact that full-fashioned hosiery manufacturers, in order to keep abreast of competitors, must have a program for both rebuilding and replacement of their machines.

There are various danger signals which give warning that equipment must be modernized. First, is the matter of production. Maintenance of normal production at all times is necessary if overhead costs are to be kept at a low level. If weekly production is below normal when the machines are operating at their full capacity, it means that the equipment is wearing out, and should be replaced.

Second, is the question of quality of product. In many instances, where old machines are in use, irregulars are so far in excess of first-grade merchandise, that it would be highly profitable to spend some money either for the rebuilding of old machinery or the installation of new. This statement holds true even though all profit may have to be dispensed with until modernization has been completed and paid for.

Third, is the subject of labor costs. If the mill is loaded down with too many old, slow-speed machines having only 18 or 20 sections, it is behind the eight-ball from the standpoint of labor costs. The sooner this equipment is relegated to the scrap heap, the sooner will the management get relief from headaches due to excessive costs. Even in certain sections of the country where wages may be slightly lower than in and around the knitting centers, it is difficult to operate such machines at a profit.

It is always the oldest machines in the plant which require the most attention and replacement parts. Therefore, even if a mill which has both modern and obsolete machines is operating at a profit, it is almost certain that part of the earnings of the new ones is being absorbed by losses of the old ones. Of course, if there are not enough modern machines to overcome losses of the obsolete machines, there can be no profit. From the moment a hosiery machine makes its first course, it begins to depreciate in value and with the passing of time becomes obsolete. It is essential, therefore, that if a company is making a profit it set aside a reserve for modernization. Otherwise at some time in the future, when the mill ceases to operate at a profit, the company may find that it is not financially able to purchase new machinery. It is then only a question of time as to how long the plant can continue to operate at all.

**REBUILDING.** There are many and varied opinions as to how often a machine should be rebuilt. However, most people who have studied the matter agree that intervals for overhauling should range from three to five years.

After a machine has been running for several years, trouble will be encountered in the form of vertical stripes and needle lines. Under present-day competitive conditions and to meet the

strict demands of buyers, the mill must exercise care and discretion in the grading of its hosiery. Almost any stocking that contains a stripe or a line, is classed as an irregular. Stockings which contain defects that are too glaring do not even make good irregulars. If a mill is producing a high percentage of imperfect stockings, it probably is losing money rather than making it. Installation of new parts, such as sinkers and dividers, and reneedling of the machine will eliminate most of this trouble.

One mill with which the writer is familiar makes a practice of completely overhauling its machines once every three years, or sooner if stripes begin to appear in the hosiery. At first thought this system might appear to be unprofitable. However, that is not the case. The mill operates its machines on a double-shift schedule, 50 weeks a year. Average production is about 100 doz. a week from each legger. According to the mill's records for a three-year period, stripes caused by worn parts accounted for 20 to 30% of the irregulars. The work is graded closely.

First-grade merchandise sells for $8 per doz. pairs; seconds, for $6 per doz. According to these figures, at the end of three years, $2 a doz. on about 25 doz. would be lost from each machine every week. This means that $50 a week would be lost, due to faulty parts. The machines are rebuilt at a cost of about $1,200 each, which is paid for in about six months by the higher prices realized from the improved goods.

**NEW MACHINES.** New full-fashioned machines are superior to the older ones in every respect. Production capacities are being continually increased. Even with greatly increased speeds, the new machines run much more smoothly than the older models. Furthermore, it is possible, with these new machines, to make almost any style of full-fashioned hose that is desired.

The first step toward increasing the productive capacity of machines was the addition of more heads. During the boom years of the 1920's greatly increased speeds were effected by shortening of the average needle. More recently development of automatic welt devices have reduced down time of machines and thus further increased their productivity.

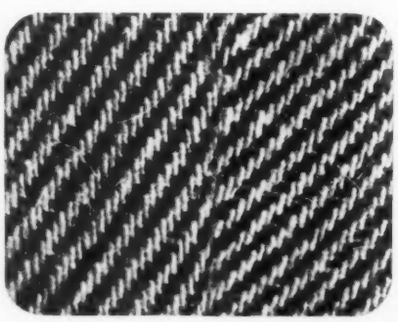
Today one manufacturer is building a full-fashioned hosiery machine which will produce 15 doz. more legs a week than will the highest-speed machine built by the same company in 1923. This means that ten of the new machines will produce approximately the same number of stockings as will twelve machines of the older model. Again, the new machine will produce a higher quality of fabric and is much more versatile than the old machine. Often, the old-type machines need attachments to make certain styles of hosiery. Many of these attachments are expensive, and it may not be worth while to put them on an old machine.

A new machine benefits the mill in many different ways. It lowers overhead by producing a maximum amount of goods; it produces high-quality merchandise; it reduces labor costs.

Many buyers of hosiery keep themselves informed as to which mills have up-to-date equipment and which are allowing their machines to get into a run-down condition. They naturally favor those companies which are producing first-class hosiery that will give consumers the most satisfaction. Even if he has the best of salesmen, a hosiery manufacturer needs a high-quality product in order to compete successfully with other manufacturers. It is obvious that a mill with obsolete machines which are producing inferior goods at a high cost must install modern equipment if it is to survive. Then, to keep its equipment in proper condition so that the quality of the product will not degenerate, the management should adopt a program for overhauling and rebuilding the machines at definite intervals.

# Weave Imperfection

## Uneven-twill appearance in worsted fabric due to improper warp dressing



Worsted fabric with uneven-twill

**RECENTLY,** a worsted mill was troubled with defective cloth in which the twill appeared to run narrow and wide the complete length of the warp, giving the appearance of an uneven twill. About three-quarters of the width of the piece was even in twill size, but the right-hand side of the cloth seemed to have a wider twill, as shown in the accompanying illustration.

Realizing that one or more of a number of things might give rise to imperfections of this nature, the mill decided to eliminate each possibility in turn and thus make sure the same difficulty would not again crop up, from a different source.

After checking the warp compressor, the weights on the back of the loom, the temples, the sand roll, and the number of ends and picks per inch in each section, it was finally discovered that the trouble in the cloth was caused in dressing. The warp in question was made in four sections on a section dresser. The right-hand side of the cloth was the first section dressed; no doubt there were full spools to start with. It appears probable, however, that the amount of weight for tension was not decreased as the spools became smaller during dressing; hence the last three sections are tighter than the first.

If the warp had been checked before being beamed, the first section would have been found to be of larger diameter than the others. However, after compression, its diameter on the beam would be the same as the others, although the actual length of yarn in the various sections would not be equal. Since the yarns were more slack in the right-hand section of the warp, the weave of a loose type, and there was considerable contrast between warp and filling colors, the twill would be wider in this section than in the others.

Special care of spools in warp preparation is also required on cloths of this type. When taken from spoolers to dressers, the spools should either be put in racks or placed gently on the floor, not dropped. If spools are to remain any length of time between spooling and dressing, they should be placed in racks and not be piled on top of each other, as this may cause them to become partly oblong.

# Warp-Knitting Essentials

## Pointers on the selection, installation and operation of high-speed tricot machines

By OTTO ENGELHARD
Consulting Engineer

**IN VIEW** of the growing importance of the warp-knitting industry in this country, the writer believes that the following pointers on the selection, installation, and operation of high-speed tricot machines should be of particular interest at the present time. These observations are based largely on practical experience gained in various European countries, but, in the main, should be equally applicable here.

Except for special purposes, only two widths of machines are used; viz., 84 in. and 168 in. While 84-in. machines are in more common use in Europe, 168-in. machines are used more widely in this country. Of course, the exact width of the fabric knitted depends upon the stitch used; but ordinarily 120-in. fabric is produced on a 168-in. machine, and 60-in. fabric on an 84-in. machine, using all needles.

High-speed tricot machines, especially in finer gages, are extremely sensitive to temperature fluctuations. In a two-bar machine there are five bars—a needle bar, a sinker bar, two guide bars, and a presser bar. Every one of these bars expands and contracts to a different extent, so that it is impossible for the machine to operate properly when it is subjected to temperatures which fluctuate to any considerable extent. Of course, the wider the machine, the more pronounced is the effect of temperature fluctuation. From this standpoint, unless the width of the fabric is a deciding factor, an 84-in. machine is preferable to a 168-in. machine if the mill is not air-conditioned.

During the winter a mill can be kept at the same temperature at all times. But, during the summer, when the outside temperature is higher than the working temperature within the mill, it is impossible to maintain constant inside temperature without air-conditioning equipment. This is especially true if the mill is running more than one shift.

While air-conditioning is always desirable, the writer's experience has been that an 84-in., high-speed tricot machine as fine as 28 needles per in. can be operated in a mill without air-conditioning. With a 168-in. machine, air-conditioning is necessary. Most of the machines in use in this country are 28 needles per in., with a few 32-needle machines being used and still finer gages coming into use.

When an 84-in. machine is stopped for threading of the needle bar, altering of the stitch, oiling, or because of yarn breakages, the loss in production is only half as much as it would be for a 168-in. machine. For mills producing novelty fabrics, 84-in. machines generally are preferable, because, with such fabrics, it is necessary to stop the machines frequently to change the pattern. Furthermore, it is more difficult to make a complicated stitch on a 168-in. machine than on an 84-in. machine.

On the other hand, the 168-in. machine will be found to be more economical to operate in high-efficiency mills where the percentage of machine stops is low. Power consumption and maintenance cost on a 168-in. machine are somewhat less than on two 84-in. machines. Also, the initial cost of a 168-in. machine is considerably less than that of two 84-in. machines and, at the same time, the wide machine occupies less floor space. An additional advantage of wide machines is that an operative can handle almost as many of these as he can narrow ones.

In Europe, where high-speed tricot machines are in more general use than in this country, it can be observed that underwear manufacturers have a tendency to use finer gage machines each year, whereas coarser gage machines are being used each year for outerwear. In terms of cost of operation, fine-gage machines are more profitable if the cost of the yarn is high in comparison to the cost of labor.

Mills making only plain fabrics or simple novelties do not need attachments for the machines. For example, if two-bar machines will suffice, three-bar machines should not be installed. Machines with attachments cannot be operated at so high a speed as those without attachments.

The most economical operating speed is not necessarily the maximum speed, as above a certain point the wear and maintenance cost of the machine may outweigh the gain in production. Actually, the wear of the needles and, especially the yarn guides, or eye needles, increases greatly as the speed is increased. For example, if the speed of a machine operating at 250 r.p.m. is increased to 500 r.p.m., wear on the needles will be increased almost four times.

**ALL TYPES OF RAYON** do not produce the same degree of wear on the needles—viscose yarn produces less wear than acetate or cuprammonium yarn. When mixed warps of both viscose and acetate are being used, the two yarns should not always be threaded on the same guides. Those guides which are threaded with acetate should be threaded with viscose when a new warp is put on the machine. Also, mills which use more than one denier of yarn should not run the same denier on one machine for a very long time. It will be found that if 50-denier rayon is run on a machine for some time and then the machine is threaded up with 100-denier rayon, there will be numerous yarn breakages. If filet-stitch fabric is being made and a new warp is put on the machine, it should not be threaded on the same needles on which the preceding warp was threaded. If precautions are taken to alternate the denier and type of rayon threaded on the needles each time a new warp is put on the machine, the wear on all needles will be almost uniform.

In mills making plain fabric or simple novelties it is advisable to use sectional beams.

When the full width of the machine is not used, threading will be facilitated by marking the first eye needle on each guide bar. In this way, threading on all guide bars begins with the same eye needle. In threading warps for filet patterns, time will be saved and errors avoided if corresponding needles of the threading appliance are removed. For example, if a pattern repeat requires two needles threaded and eight needles empty, every third to tenth needle inclusive should be removed from the threading appliance.

# Too Much Twist

## In warp and filling yarns means trouble in pre-shrinking cotton fabrics

By WILLIAM H. HARRISS
Sanforizing Division, Cluett, Peabody & Co.

**FROM THE EARLY DAYS** of the textile industry, cotton piece goods have been manufactured on a six-dimensional basis. Attention has been concentrated on proper width, warp yarn, sley, filling yarn, pick, and weight. Much time and constructive thoughts were given by various textile interests on practical tolerances for all of these dimensions, resulting in the promulgation of the "Worth Street Rules," which are today generally recognized by the trade. However, these rules make no attempt to standardize yarn twist or cloth-shrinkage performance. Modern practice now demands that we add to the old standard cloth specifications some knowledge of potential shrinkage performance.

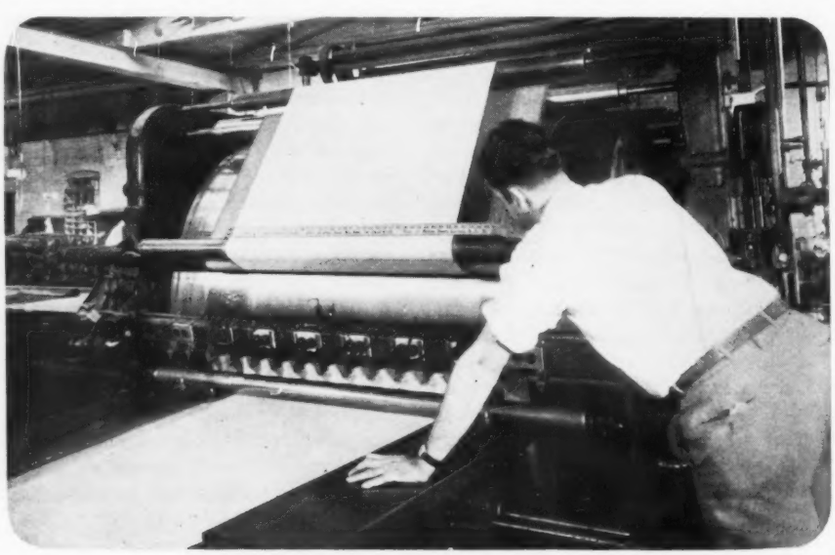
Since the advent of Sanforizing, the entire textile trade, as well as the general consuming public, has become "shrink conscious" when thinking of fabrics, and we now realize that other elements constituting a fabric, particularly the twist and tension in the component yarns, must get more consideration, as these contents have a direct bearing on a fabric's finishing and shrinking potentialities. Some gray fabrics have reached the market with filling twist all the way from standard to 40% over, the latter resulting in excessive shrinkage, detrimental to all concerned. It is important, therefore, that a fair tolerance should now be established for the twist content of cotton fabrics, certainly on standard graygoods.

However, before going into the question of a fair twist tolerance, it would seem well to examine thoroughly the present warp and filling twist standards as to their fitness for modern improved mill practices. Is it not true that present twist standards were handed down to us from the days when mule spinning was largely in use, particularly for filling; and is it not for this reason that we have the wide divergence between the two standards? If 3¼ times the square root gives sufficient twist to make a good filling yarn, it does not seem reasonable that so much as 4¾ times is needed for warp yarn, although the latter takes more punishment in the loom. As a matter of fact, there appears to be a tendency in some mills to go up on both twists, rather than down—something like 3½ for filling and 5 for warp. Isn't this rather surprising in view of the improvements that have been made in all mill preparatory processes and in modern warp sizing? The necessary twist depends upon the cotton used, but the general length and character of cotton staple and ginning have also been greatly improved since these old standards were established. It costs money to put twist in yarn; and a less-twist trend, rather than a more-twist trend, would seem to be better in line with modern practice.

**WHEN TWIST STANDARDS** are agreed upon by the industry, a fair tolerance should be established controlling the variation of twist in a given fabric. Any twist tolerance must necessarily be based upon a good average performance of the spinning frame. It is said by some that even the modern frame with tape drive gives a variation in twist from side to side of 10 to 15%. This does not seem probable, but, if true, it would in itself limit the minimum tolerance of twist.

Many of the present standard gray cloths need no change of construction to give practical finished width when Sanforized. Some are too narrow and are being widened. Others are on the border line of danger, and on these the twist problem becomes serious. Take the standard 39-in. print cloths—68 x 72, 72 x 76, and 80 x 80 constructions. All these must be handled just right by the finisher if he is to produce a finished and Sanforized result of 35 to 35½ in. in width; otherwise, they may come in as narrow as 34½ in. to meet the Sanforized standard (residual shrinkage not in excess of 1%). However, such an extremely narrow result is not the finisher's fault, as in some instances two pieces of print cloth both 39 in. in the gray, but from different mills, will finish and Sanforize with nearly 1 in. difference in the width when put through identical finishing processes. Here the trouble must be largely a question of twist in the filling.

It is pretty generally admitted that until recently it was hardly possible to manufacture print cloth in the gray at market prices and come out with a profit. Confronted with this eventuality, some mills were driven to the necessity of buying short cotton for the filling. Having done this, they were further forced to put much more than standard twist in the yarn to make it spin and weave properly. In so doing, they probably did not realize what trouble they were building up for all others down the line—finisher, converter, and cutter. Again, in time the mills may find that this policy of shorter cotton with more twist will react to their detriment by giving their goods a bad shrinkage reputation in the trade.



Difficulties in Sanforizing may be due to excessive yarn twist

Abstract of a paper delivered before the South Carolina Weavers Division of the Southern Textile Association, on Nov. 11, at Clemson College.

Experience has shown that a 39-in. gray print cloth made with the proper cotton and standard twist in the filling should finish and Sanforize 35 to 35½ in. and be within the above tolerance. Any deviation from this good practice usually means trouble for all. Some mills let their gray width run down below 39 in.; and, if this narrow gray width is in combination with hard-twist filling and high yarn tensions, the finished width problem is indeed serious.

In this discussion stress has been placed on width shrinkage; but no less objectionable is excessive warp shrinkage, although it is more difficult to detect in the finished goods.

Some mills are now weaving the 37-in. drill 38½ in. wide for Sanforizing; and in time the 39-in. print cloth should be made 40 in. for Sanforizing; then the cutter would be assured of 36 in. finished and shrunk goods. Where gray goods are to be reconstructed for Sanforizing, it should be left to the trade whether the present constructions are to remain and the goods simply made wider, or the present warp ends spread and a few picks taken out so as to leave the goods about the present weight and price.

The time has arrived when the trade must fully realize that the consuming public is quite conscious of the textile shrinkage problem. The question of its elimination is before us all and here to stay; therefore, it behooves all concerned—mill man, seller, finisher, converter, cutter, jobber, and retailer—to work together in producing fabrics and garments of proper width and size and that will not shrink. The mill men who make the gray cloths have the obligation to be sure that they are correct in all elements of these basic fabrics; otherwise the finishing operations will be made more difficult for all concerned.

# A New Idea in Printing

## Stentite process for vat dyes lends individuality to finished products

Individualized designs add to appeal of dress and play suit

**EVERY ONCE IN A WHILE** a new process is discovered which has much broader applications than were originally foreseen. This appears to be true of the Stentite process of vat-color printing. First developed about five years ago for use in making multi-colored banners, the process was gradually improved to permit garment manufacturers to produce their own prints. Now, after a year of successful use in the garment manufacturing industry, the method is being introduced to the textile industry proper.

In the Stentite process (developed by a company of the same name), the vat dye is applied to the cloth by means of a spray and stencil, and the material is then placed in a steam chamber to fix the color. No complicated or expensive equipment is required. One of the chief advantages of this spray and stencil method is its versatility, allowing pattern and color changes to be made almost at a moment's notice. For example, a new design has been applied and submitted for inspection 30 min. after the original sketch was drawn. Speed of application is rapid, single-color prints of average size being produced at the rate of 1,267 an hour, with one person doing the spraying.

The accompanying illustrations show the way in which the process has permitted garment manufacturers to add individuality to their products and to make their own prints according to their needs. For example, it is possible for manufacturers who believe that one or two prints would be more effective than an over-all design on a garment to offer such creations to their customers.

Naturally, the same type of designs could be produced in textile finishing plants. In fact, it would seem to be more logical for the garment manufacturer to have the printing done by a regular textile finisher than to attempt to do it himself. The finisher could print any desired length of cloth with designs so arranged that they could readily be cut out without waste of fabric in any shape desired.

A suggested use for the spray and stencil process in plants which are now doing roller printing is in the preparation of samples of new designs. Such samples could be produced economically and would be better than are hand-drawn designs on paper for showing the appearance of the final fabric.

The Stentite process is not expected to take the place of present methods employed by textile printers, but to supplement them. Although the method was developed originally for producing designs on fabrics for women's, misses', and children's clothing, it appears to be equally applicable to drapery fabrics, luncheon cloths, and other materials where distinctive designs would add to the sales appeal of the product.

# West Point Night School

## Evening classes important in mill group's general training program

By HORACE L. PRATT

**CONTRARY** to popular belief, the first evening textile class in the Chattahoochee Valley was not organized to help struggling young men in the mills who did not have an opportunity to study textiles academically. Rather, it was formed for the purpose of assisting young men who had enrolled for training with a well-known correspondence school, but who did not have sufficient educational background to carry on the course unassisted.

W. T. Draper, superintendent of Langdale (Ala.) schools, taught the first evening textile class in the Valley at Langdale in 1914-1915. The moving spirit behind this undertaking was the late Lafayette Lanier, II, for many years agent of West Point Mfg. Co. Immediately after the class was organized, men who were not taking the correspondence courses wanted to join, so any ambitious man in the mill who wished to take the night course was enrolled.

The next year a class was formed in Fairfax, Ala., schools of the same company, under the direction of P. C. Ramsay, who is now in charge of all vocational training in the communities surrounding the West Point group of mills. Soon classes were organized in Lanett, Shawmut and Riverview.

In these first classes the only textbooks available were the I.C.S. pamphlets, and these could be had only by special arrangement. The instructor had to enroll for a course and through him and the local I.C.S. representative extra pamphlets could be secured. The mills cooperated by furnishing these textbooks and by supplementing the teachers' salaries.

With the passage of the Smith-Hughes Act in 1917, Federal funds, supplemented by State money, became available for this type of vocational training—which soon became general in the better textile mills. Eventually, more funds for training became available, making it possible to pay the instructor commensurate with his services. It was also possible to establish additional classes. The earlier classes provided only a general course beginning with the picker-room and taking up each succeeding process on through the weaving department. More often than not the students would drop out, a new class had to be formed, and the course would have to be started all over again. Many students, including the writer, had to cover the same ground many times because of men dropping out and new classes being formed as often as twice a year.

School of West Point Mfg. Co., with part of village

While this history is interesting, let us take a look at the evening classes of the present day. The term begins Oct. 1 to continue for eight months. Last year there were 26 separate classes, either directly or indirectly related to textiles, with a total enrollment of 265. These classes are classified as carding, spinning, weaving, practical loom fixing, textile mathematics, designing, chemistry of bleaching and dyeing, practical electricity and practical English.

Studying the various processes separately is of two-fold benefit. First, it permits specialized teaching by a proficient instructor. Second, the student gets credit for the work that he completes without regard to sequence.

Mr. Ramsay, now coordinator of vocational education, with the help of the local mill authorities, organizes the classes, selects the instructors and handles business details. He also is in charge of the training of instructors. In the earlier days of the evening schools the instructor was usually the principal of the local school or one of the regular teachers, well-trained as a teacher but with little knowledge of textiles. Later, the other extreme was reached when men, conversant with the subject matter but with little or no training in the technique of teaching, were put in charge of the evening classes. Of late years the tendency is to use instructors who have knowledge of both the subject matter and of teaching methods. A class for instructors was held at Langdale last fall by Mr. Ramsay.

A recent survey of the 26 instructors of the evening classes showed that eleven had completed college courses. Others have done some college work and practically all have had special training in their particular fields. Several are former members of evening classes and all have had practical training. Many of the men hold supervisory positions in the local mills.

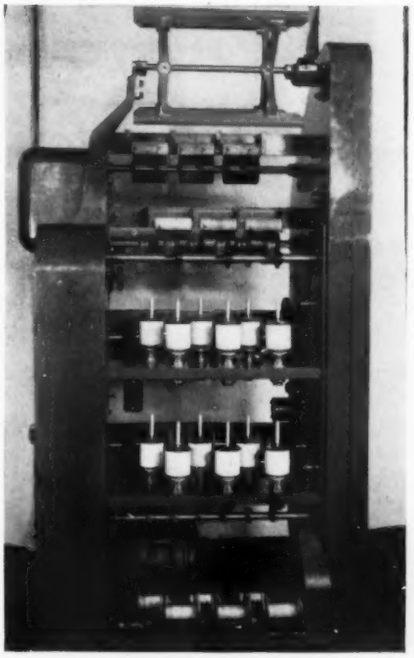
All of the classes are following, generally, the Standard Cotton Textile Evening School Courses of Study. In addition to I.C.S. pamphlets and "Cotton Mill Mathematics" by Quigley and Smith, other text books include "Practical Loom Fixing" by Nelson, text books sponsored by the Textile Foundation, and "The Basic Yarn Formula" by Pratt and Nash. Articles from the leading textile magazines, such as TEXTILE WORLD, are much used for correlated reading and for reference work.

The management of the West Point Mfg. Co. is definitely behind the entire vocational program as it relates to the community. George H. Lanier, president of the company, gets a list of all students enrolled and personally signs and delivers all diplomas. Mere attendance at evening classes is no guarantee that the student will advance in his vocation. However, the man who has prepared himself for further usefulness by attending these classes will be in a favorable position when "his opportunity knocks."

# TEXTILE EQUIPMENT NEWS

## Machine for Covering Rubber Yarn

For covering rubber yarn, H & B American Machine Co., Pawtucket, R. I., has announced a machine, an important feature of which is the constant control of yarn elongation from the beginning of the package to the end. This is accomplished by the use of two variable-speed drives. A spindle with both ball and roller bearings and a special fiber idler whirl, is designed to run at high speeds for various size packages. The package holder of the spindle is said to minimize the amount of time required to change packages. A special adapter can be furnished, making it possible to use a range of yarn packages 3 to 5 in. long. As the yarn advances through the spindle to the reel, it is prevented from slipping by a H & B sure-grip tension device. This device is said to aid in speeding up the piecing-up operation and to eliminate the older method of wrapping the yarn around two reels. The machine will cover both light and heavy rubber, and can be furnished with either beam or spool feed, and either reel or tube put-up. It is single sided with 40 deliveries (illustration shows a laboratory model with 6 deliveries).



Covered-rubber yarn machine (H & B)

## Full-Fashioned Knitting Machine

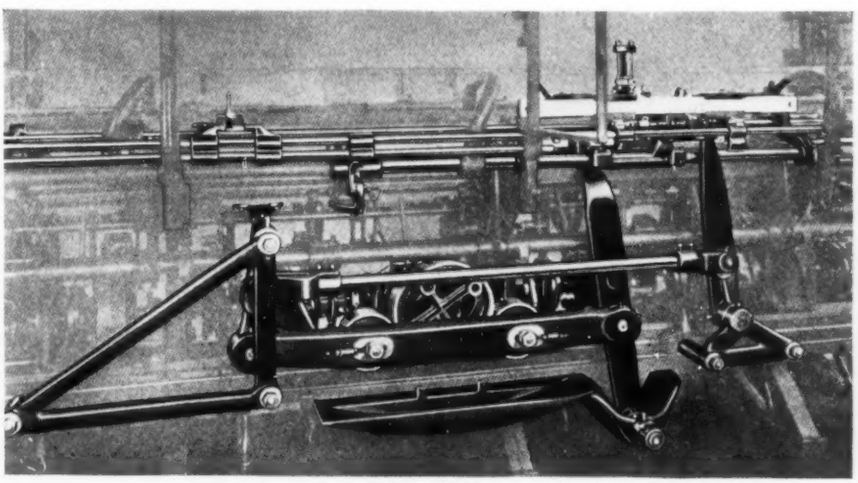
Production of 16 doz. pairs of three-thread, 45-gage legs in 8 hr. is made possible by the new Reading full-fashioned knitting machine, according to an announcement by Textile Machine Works, Reading, Pa. The machine is equipped with an automatic regulating motion, which consists of two main regulating units and two auxiliary units placed uniformly over the length of the regulating shaft so as to divide the regulating load equally between them. Included in the design of the auxiliary unit is a loose-course lever with which different loop lengths are obtained by automatically shifting buttons of various heights under the adjusting arm spindle through action of the chain motion; space is provided for twelve regulating changes during the knitting cycle.

A double-spindle type reinforced selvage attachment makes possible the production of various heel designs, such as French heel, pointed heel, black heel on leggers, and semi- or full-cradle sole on footers, as well as other constructions involving a varying width of the reinforced section. A wide range of stocking styles can be produced, including those embodying a two-needle closed split and heel-and-heel reinforcement in their construction. Various types of shadow clock designs, both symmetrical and non-symmetrical in shape, are easily incorporated in the stocking. The additional needle-bar rocking action, required when the selvage attachment is in use, is furnished by an improved camshaft rocker, consisting of a rotating cam flange to which is attached outwardly movable cam-bits and operating cam-pieces. These cam-pieces in turn are fitted with connecting rods controlled from the selvage nuts through a suitable linkage. Any movement of the reinforced selvage nuts is transmitted to the operating cam-pieces, which are moved closer together or further apart, thus increasing or decreasing the duration of the rocking action as required.

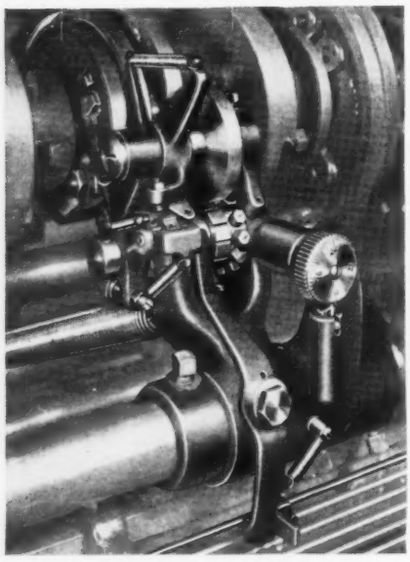
Eleven button rows with which the chain motion is provided automatically control the following motions and attachments; narrowing and speed reducing, course counter, machine stop, reinforced selvage, loose-course or lace-control, idle course, regulating, lace loose course, draw-off, and rockers. The footer counter is so designed that changes in foot size involving the elimination or addition of as many as 210 courses can be made instantly, merely by setting a plunger on the desired graduation of the counter dial.

Replacing the pulley-and-weight method of imparting tension to the draw-off reels is the automatic draw-off motion, which incorporates the fabric tension-release motion, essential for the proper performance of narrowing and lace-forming operations. Its use eliminates the human element when making draw-off changes, and greatly reduces the possibility of spoiled sets ordinarily caused by improper fabric tension.

Other features of the machine are the



Reading Coulier Motion (Textile Machine Works)



Automatic regulating motion
(Textile Machine Works)

Reading Conditionaire for conditioning yarn, the half-speed shock absorber described in our March, 1938, issue, and a Reading Coulier motion which enables the machine to be operated safely at 70 or more courses per min., and to produce superior fabric over a long period of time, a center lace attachment, an alternating three-carrier attachment, and an improved B.T.A. motor drive.

## Shear Stop-Motion

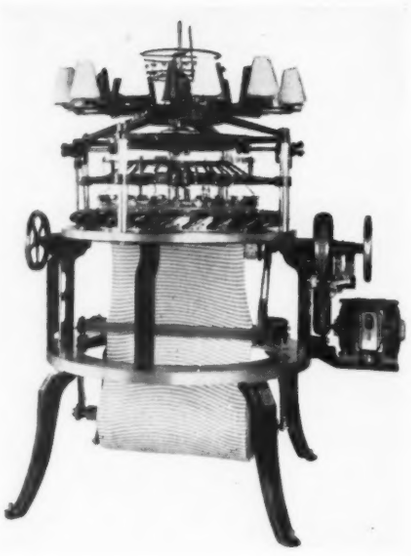
Several improvements have been made in recent months to the Model AE shear manufactured by Hermas Machine Co., Hawthorne, N. J. Among these is an automatic stop motion designed to stop the machine if at any time the cloth should become severed while in the machine. This may happen due to faulty seams or to the operator's neglecting to stop the machine as the end of a piece approaches.

In addition to the regular automatic cloth-rest-operating device which lowers the cloth as a seam approaches the knives, the machine is now equipped with cloth guards that move up between cloth and knives as a seam approaches a knife. The purpose of these is to keep long flaps and the baggy sections of the cloth at the seams from being drawn into the knives.

## Pattern-Wheel Rib Machine

For the manufacture of bathing suits, sweaters, etc., Jacquard Knitting Machine Co., Inc., G and Lycoming Sts., Philadelphia, has announced a new pattern-wheel rib machine, known as model GW. The machine has 24 feeds and 24 large pattern wheels. It is said to make possible high production of quality knit goods, with a pattern range larger than was possible on previous models. Patterns which the new machine can produce include designs in color, with plain or birdseye back; various forms of rib stitch, cardigan, or half-cardigan; raised welt stitches; blister or raised stitches; and numerous tuck and combination stitches.

The machine is of the revolving-cylinder type, in which the bobbins stand still. It is absolutely dogless, a feature said to reduce the likelihood of streaks in cloth and to make possible more uniform knitting. An individual-end electric stop-motion is part of the Model GW's equipment, as is a totally inclosed individual motor with an adjustable V-belt drive.



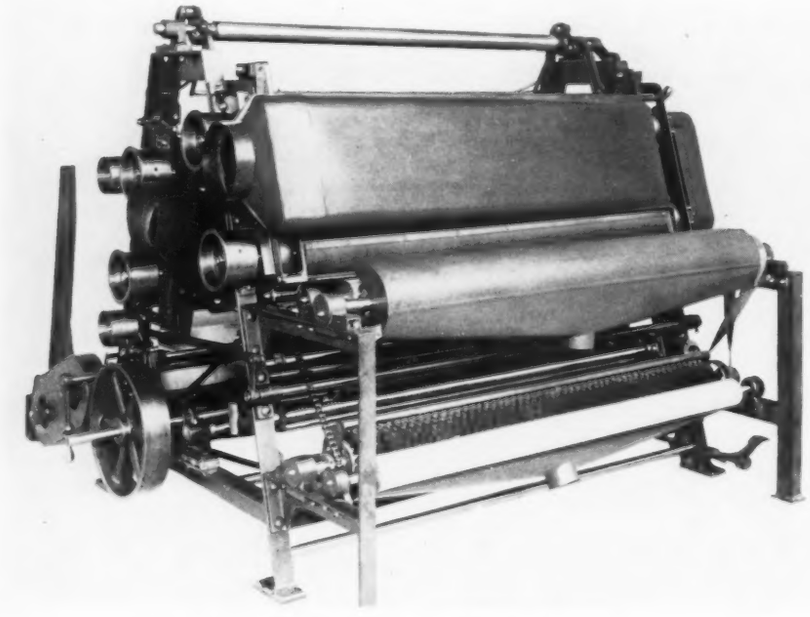
Pattern-wheel rib knitting machine
(Jacquard Knitting Machine Co.)

## Twister and Spinning Rings

Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa., has announced a special design of twister ring of hardened steel and with an oil reservoir. This permits long traveler life and is said to assure cleanliness and non-soiling of the yarn. Hardened steel yarn hooks prevent yarn cuts. It is not necessary to lubricate the ring more often than once a month.

This same company has developed travelers for the new twister ring, for twisting tire cord and various other cords, using either wet or dry twist.

Still another item announced by this company is a spinning ring made reversible and non-reversible in standard flange numbers. An angled top for easier starting and angled side wall prevent the outside traveler point from dragging and backtracking. A new process of case hardening is said to increase wearing qualities of the ring.



Improved Shear (Hermas)

## Attachments for Mullen Tester

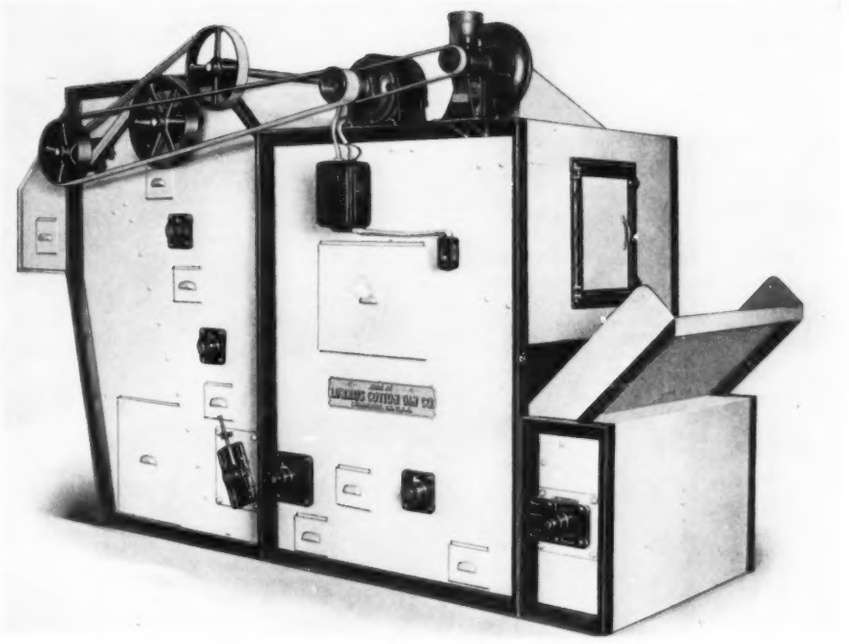
A method for increasing the accuracy of the Mullen burst test has been developed recently by May Hosiery Mills, Inc., Burlington, N. C. According to Mark N. Holmes of that company, if insufficient tension is applied to stretchy materials, like hosiery fabrics and some woven crepe fabrics, it is difficult to test them on a Mullen burst tester. The application of tension by hand is, of course, not uniform and may affect the results as much as 10%. To overcome

this error, a special tension device was developed. At present the attachments are not on the market, but can be made by any mill which desires to do so for its own use.

This device, consisting of a movable mount on diaphragm nut which imparts uniform tension to the fabric under test, is comprised principally of two rings which clamp the fabric under no tension. The tension is applied by means of weights, suspended from rings by four rods, and is actuated by a rod attached to cam lever, when the tripod is brought to bear on diaphragm plate. A flange ring attached to the diaphragm nut acts as a guide for the device. The weights may be varied from ½ to 5 lb.

Alterations have also been made on the Mullen burst tester to perform fatigue tests to show how many times the fabric will withstand a stress at some point beneath the bursting strength. The clutch throw-out shaft has been lengthened and an adjustable screw collar added so that any pressure may be attained. Springs have been placed against the collars on the throw-out shaft so that the machine automatically continues in motion. When the machine is set for the required pressure, the spring aids in throwing the lever in reverse. The same applies when the zero point is reached—the spring throws the lever through the neutral position to the starting position. A counter attached to the starting lever registers the number of stresses.

A pressure of 10% below bursting strength is considered a favorable point to work from. However, any pressure may be used. However, the building up of pressure is rather slow, and the adjustment should be made so that the test does not run over 50 stresses; otherwise it will require too much time to complete test. Mr. Holmes states that in comparing bursting strength or fatigue of fabrics where sufficient material is not available to attain good average results, it would seem only fair to the fabrics that their weights be known, so that a compensating factor could be applied to obtain comparative results. The weight of a fabric can be easily obtained by cutting an area with a die (the same size as diaphragm opening) adjoining the area that was tested and weighing the specimen on balance.



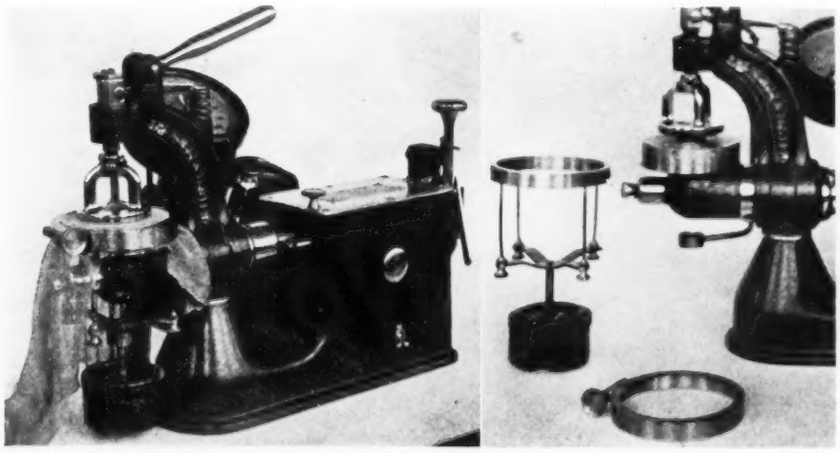
Blending feeder (Lummus)

## Automatic Blending Feeder

Extra heavy design is an outstanding feature of an automatic blending feeder announced by Lummus Cotton Gin Co., Columbus, Ga. When the hopper is full, the door through which cotton is fed, closes automatically, so that overloading is impossible. A surplus of cotton is piled on the door by the operator, and, when the hopper needs more stock, the door opens automatically. Thus it is necessary only for the operator to keep the machine supplied with a visible surplus of cotton.

A cleaning grid under the doffing roll has specially shaped bars with angular leading edges. An additional grid at the bottom of the pin apron removes the trash dislodged by the fanning action of the doffer. Both grids are electrically welded.

The machine is equipped with a dust exhaust fan, and ball bearings throughout. Hand holes provide ready accessibility to all compartments and all bearings. All parts are easily removable. Arrangement of the machine is such that either individual or group drive can be used.



Attachments for Mullen tester—left, sample mounted on tester; right, tension device dismounted. (May Hosiery Mills)

## Needle Oil

E. F. Houghton & Co., Third and Somerset Sts., Philadelphia, have announced a needle oil which is said to be both a good lubricant and rust preventive for full-fashioned needles, sinkers, and catch bars. This oil, which can be applied with a brush, swab or spray, adheres in a non-porous film which does not dry out and gum up the working parts.

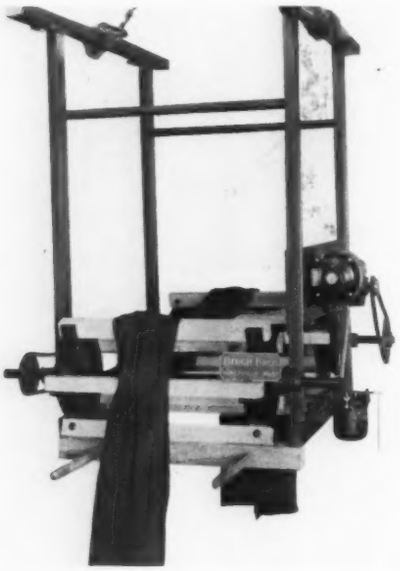
## Roll Covering for Combers

A cellulose acetate covering for comber detaching rolls has been developed by Armstrong Cork Co., Lancaster, Pa. The material, known as Accotex C600, is recommended as a covering for the front line or delivery rolls of combers. It is said to be ex-

tremely durable, and to give satisfactory service for many years. It is stated that the material does not "lap-up" and requires no rebuffing or varnishing; and that, therefore, practically no maintenance expense is involved.

## Extractor Loader

To make easier the loading and unloading of basket-type centrifugal extractors, Birch Bros., Inc., Somerville, Mass., has developed a machine which



Extractor loader (Birch)

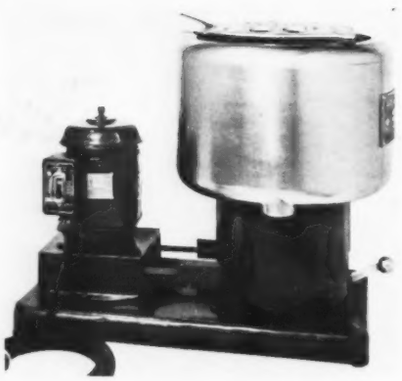
makes it possible for one man to load and unload an extractor. This consists of a pair of side frames, two reels of suitable material, and a built-in drive with a reversible motor. Speed of the loader is 40 yd. per min.

## Small-Lot Extractor

For handling small lots, Haring & Stephens Co., Paterson, N. J., have brought out the Hercules Jr. extractor. This is a self-balancing extractor with a quickly removable all-Monel metal basket which measures 12 in. in diameter by 7¼ in. deep, and gives ample capacity for handling loads up to 5 lb. dry weight. The basket runs at 1,750 r.p.m. on Timken bearings, which are grease packed and require lubrication only once a year. The curb, or outer casing is of chromium-plated brass, and can be quickly removed for cleaning or test purposes.

The machine is motor-driven by a V-belt and is equipped with a hand brake that will stop the extractor in a few seconds. Where required, a timer control and automatic brake can be supplied.

This machine can be installed anywhere, simply by plugging into a lamp socket. Since it is self-balancing, it will operate without being fastened down and can be readily moved at any time.



Small-lot extractor (Haring & Stephens)

## Pneumatic Truck Wheels

Announced recently by Musselman Products Co., 6319 St. Clair Ave., Cleveland, Ohio, is the Doenut pneumatic tire for textile trucks. There are two sizes—10 x 2.75 and 12 x 3.30. Frequently these can be applied right on the present axles. Among the advantages cited are that 50% less effort is required to move the trucks and that the wheels cushion shocks and jars, reduce wear and tear on floors, are practically noiseless.

## Yarn Tension Meter

A tensometer or meter for measuring yarn tension, has been brought out by Barber-Colman Co., Rockford, Ill. This instrument is designed to assist in maintaining low and uniform tension on running yarns. To assure accurate reading, a dampening device eliminates vibration of the indicating finger. The instrument can be supplied with graduations either in ounces or grams, and to various limits, to suit the requirement of the user.

Tensometer (Barber-Colman)

## Useful Accessories for Textile Mills

**Ball Bearings.** Norma-Hoffman Bearings Corp., Stamford, Conn., announces two new series of extra light ball bearings, designated 6000 and 6100. For housings of given diameters, they permit use of a shaft of larger diameter, and similarly, for a shaft of given diameter, they permit use of a housing of smaller diameter.

**Gate Valve.** Crane Co., 836 South Michigan Ave., Chicago, announces a new line of 200-lb. brass gate valves, made with wedge disk, union bonnet, and rising stem. They are identified as Nos. 422 and 423 and are identical except for the body, No. 422 having seats cast integral with the body, and No. 423 having renewable body seat rings.

**Lamp Ballast.** General Electric Co., Schenectady, N. Y., announces a new design of ballast for use with fluorescent Mazda lamps. It has no starter or switch. New high power factor Tulamp ballast makes use of the split-phase principle in which one lamp is ballasted by reactance only and the other lamps by reactance and capacitance in series. The lagging power factor of the reactance branch offsets the leading power factor of the capacitance branch, providing an overall power factor above 95%.

**Duplicator.** Ditto, Inc., Harrison at Oakley Blvd., Chicago, announces the new Hi-Speed automatic, an electrically driven, self-feeding, self-ejecting, direct-process duplicator that produces 500 copies direct from the original writing, without the aid of stencils or type.

**Fluorescent Lighting Unit.** Hygrade Sylvania Corp., Salem, Mass., has brought out a fluorescent lighting unit called the Hygrade HF-100 and sold complete with two standard Hygrade 40-watt, 48-in. fluorescent lamps, ready to hang up and plug in any standard 60-cyle, a-c. socket. Two different types of units are available—one for operation on 115 volts; the other, on 230 volts. The unit is corrected for power factor and is said to be devoid of stroboscopic effect.

**Stainless Clad Steel.** Jessop Steel Co., Washington, Pa., is marketing stainless clad steel sheets and plates,

which are said to consist of 20% stainless steel and the balance mild steel, ordinarily of flange quality; however, all degrees of cladding from 3 to 50% have been successfully produced.

**Welding Hose.** Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J., has developed a duplex welding hose for oxygen and acetylene welding. The two hose lines are held together by a permanent web joint, integrally molded. The ends are separated 18 in. for the torch end and 24 in. for the tank end. The inner tubes are smooth and non-porous, and the covers are corrugated and colored red and green to distinguish the oxygen from the acetylene line.

# New Chemicals

## Degumming and Dyeing Assistant

Development of a new product for use as an aid in degumming and dyeing silk hosiery is announced by American Aniline & Extract Co., Venango and F Sts., Philadelphia. This product, known as Seracin Exhilarator, is added directly to the dyeing or degumming bath without dissolving, when the temperature of the bath has reached approximately 200° F. The new product is used in conjunction with the regular degumming compound, about 1 to 2% being employed. The action of Seracin Exhilarator is to raise the pH of the bath for a few minutes, after which the pH drops back to normal. This temporary increase in pH is said to aid materially in removing the gum from the seams, heels, and toes of the stockings, and, in addition, to permit a reduction in the amount of soap or oil used for degumming. No change in dyeing formula is involved.

## Sizing Compound for Spun Rayon

A new sizing compound for spun rayon warps and mixtures has been announced recently by E. F. Houghton & Co., Third and Somerset Sts., Philadelphia. This product, known as Houghto Size SR, is said to be suitable for use in conjunction with any type of starch or gum ordinarily employed for spun rayon sizing. From 6 to 7% of Houghto Size SR, based on the weight of starch or gum, is employed in the sizing formula. Among the advantages cited by the manufacturer are high breaking strength and elasticity of yarn, increased weave-room efficiency, and easy boil-off. It is stated that the brilliance of dyed warps is not affected by the softener.

# New Publications

## The "Poor White", from 1700 to Date

THE SOUTHERN POOR-WHITE FROM LUBBERLAND TO TOBACCO ROAD: by Shields McIlwaine: University of Oklahoma Press, Norman, Okla.: $2.50.

A great addition to southern literature has been made by this scholarly work on that much exploited class—the southern "poor-white." That it is a class, a definite breed of human, with characteristics just as true 200 years ago as they are today, Shields McIlwaine proves by his study of American authors and their works from the time of William Byrd (1674-1744) up to and including Erskine Caldwell and William Faulkner. The only difference in the tacky, he points out, is the era of and the treatment by the respective authors: Byrd, William Gilmore Simms, James R. Gilmore, Mrs. Stowe, Thomas Nelson Page, Joel Chandler Harris, and many others.

The cycle of the poor-white in literature, it is explained, covers four distinct periods. In these periods are portrayed the shiftless, indolent landlubber of the frontier borderlands described in travelogues; the villainous tacky which received major attention in the comic-writing of the pre-War South; the less flavorsome but more pathetic Cracker discussed with Victorian prudery and sentimentality; and the share-cropper—the Jeeter Lesters of today.

This is a book which furnishes better understanding of the literary treatment of the South. For that reason it should be read by every reading-person. It should be of particular interest to the people in the textile industry for through the socializing force of the southern cotton mill so many potential poor-whites have been saved from that fate.

## For Teachers of General Textiles

APPLIED TEXTILES, Two-year Course of Study with Lesson-Plan Units: by George E. Linton, Charlotte B. Steinmetz, and others: Bureau of Industrial and Technical Education, State Education Department, Albany, N. Y.: $1.50.

This course of study in textiles was prepared for the use of vocational teachers in secondary schools which train students for (1) the various phases of the textile industry itself, (2) the retail and wholesale buying and selling of clothing fabrics, and (3) homemaking and interior decoration.

The material is presented in detailed lesson-plan units, intended to be taught in a two-year course on a five period per week basis. The lessons outlined for Term I include names and definitions of parts of cloth, classes of textile fibers and their identification, microscopic study of important textile fibers, forms in which textiles are dyed, methods of making cloth, and weaves. For Term 2 there is outlined a study of cotton, linen, wool, and other hair fibers from the standpoint of history, grades, characteristics, manufacture, standard fabrics, etc. In Term 3 similar studies are made of silk, tussah, rayon, acetate, and minor fibers of these types. During Term 4, the student gives attention to physical and chemical testing of textiles, laundering, dry cleaning, and spot and stain removal.

The authors appear to have done a thorough job in preparing this volume, which comprises 220 mimeographed pages and is spiral-bound. It should prove of interest and value to all concerned with teaching general textiles.

## Consumer and Student Information

A GUIDE TO TEXTILES: by Mary Evans and Ellen B. McGowan: John Wiley & Sons, Inc.: 440-4th Ave., New York: $2.50.

This is another of the "dictionary" type of books, containing an alphabetical listing of textile terms and descriptions of their meaning. It is intended for use of consumers, or students who are interested in obtaining general information on textiles. Many of the definitions are very brief; others, notably those having direct consumer interest, are so expanded that they cover several pages.

A chief difficulty of the book appears to lie in the fact that it has tried to

be at once technical and non-technical. This has resulted in considerable vagueness in many of the technical descriptions, inclusion of what seems to be extraneous technical detail, and a few inaccurate or incomplete statements concerning technical processes.

## Just Pep Talks!

STEP OUT AND SELL!; by William E. Holler; The Dartnell Corp., Chicago; $1.50.

A series of pep-talks without one single concrete suggestion as to better selling methods is this volume of unrelated chapters written by the general sales manager of the Chevrolet Motor Division, General Motors Corp. The biographical sketches portraying examples of success include those of Napoleon, Ty Cobb, Red Grange, George Washington, Man-o-War, Doug Corrigan . . . not a salesman in the lot . . . but the message carried in each of the sketches is that which carried Horatio Alger to fame and fortune.

This is the sort of tripe that too often is passed around to salesmen who are expected to swallow two chapters before breakfast and sell the company out of the red. And the same theory is probably the reason so many are in the red to begin with.

The anecdotes in "Step Out and Sell!" are good. There is no denying that. But for a man of Mr. Holler's ability and prestige as one of the outstanding sales executives of the time, he missed a glorious opportunity to give some constructive thought to a profession which sorely needs it.

# News of Suppliers

**Saco-Lowell Shops,** Biddeford, Me., have assigned three of their experienced setting-up men to give instruction on Saco-Lowell machinery at mills in Colombia, South America. The men are Amede Hamel, Pete Lambert and Bob Blanchette. Their destination is the city of Mendellin.

**W. H. & F. Jordan, Jr. Mfg. Co.,** Philadelphia, has appointed Jack M. Gibson as southern representative with headquarters at Greensboro, N. C. He was formerly with Bogle-Watkins Corp.

**Proctor Chemical Co.,** Salisbury, N. C., for the last 18 months a distributor of textile chemicals, has leased a building in which to set up a plant for chemical manufacture.

**Yale & Towne Mfg. Co.** has announced the promotion of Henry D. Rolph to the position of director of export sales with headquarters in the Chrysler Building, New York. He has been with the company for over 30 years, spending his time largely in the foreign field.

Henry D. Rolph of Yale & Towne.

**American Locomotive Co.,** New York, has appointed C. S. Patton as

C. S. Patton, Alco Products Division.

sales manager of its Alco Products Division in charge of heat exchangers, condensers, feed-water heaters, evaporators, tubular equipment and allied lines. Mr. Patton was graduated from Cornell in 1918. He was with the Heat Transfer Products Co., when that concern was acquired by American Locomotive Co. and later expanded into Alco Products Inc.

**General Electric Co.,** Schenectady, N. Y., elected Charles W. Wilson, formerly executive vice-president, as president, and Philip D. Reed, formerly assistant to the president, as chairman of the board, at the meeting of the directors in New York, Nov. 17. They will take over their new responsibilities Jan. 1, succeeding Gerard Swope and Owen D. Young, who will become honorary president and honorary chairman of the board, respectively.

**Stewart-Warner Corp.,** Chicago, has elected James S. Knowlson, chairman of the board, as president also. In the

James S. Knowlson, chairman of the board, Stewart-Warner Corp., who is now also president.

latter office he succeeds Joseph E. Otis, Jr., resigned. Frank Ross, one of the corporation's vice-presidents, was designated as senior vice-president and elected a director to succeed Mr. Otis in that capacity. Mr. Ross started with the former Warner Instrument Co. in 1905.

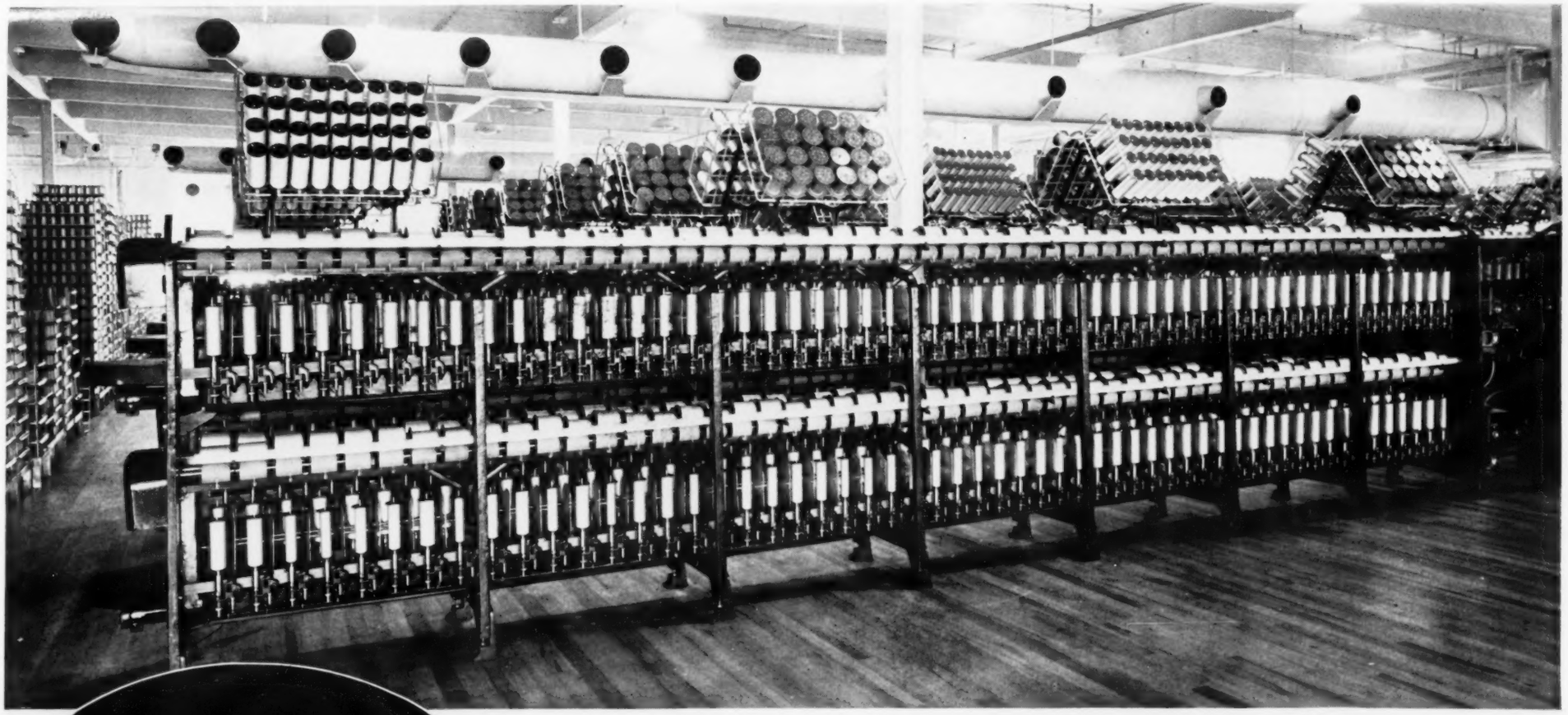
**Steel Heddle Mfg. Co.,** Philadelphia, has purchased the property and business of the Benazet Heddle Co., Philadelphia, and moved all of that company's machinery and stock into its own Philadelphia plant where it will become a regular department and where the Benazet heddles will be improved and modernized in keeping with present-day needs. This heddle is used for wire-cloth weaving, heavy woolens and such materials.

**E. I. duPont de Nemours & Co.,** Edge Moor, Del., is about to erect a major addition to its titanium pigments plant. This product is used among other things in production of dull rayon.

**Merck & Co.,** Rahway, N. J., announce that Charles P. Robinson, formerly with Ciba Co. Inc., is now associated with them. Mr. Robinson will interest himself in textile specialties.

**E. H. Jacobs Mfg. Co.,** Danielson, Conn., has taken over the Warren Pulley Cover Co., Lawrence, Mass., and has moved the machinery and equipment to the plant at Danielson.

**Stein, Hall & Co.** are constructing a five-story and basement addition to their factory in Long Island City, N. Y., which will provide about 27,000 sq.ft. of new production space on gums and



# ATWOOD UNIRAIL TWISTERS

## for SILK and RAYON YARNS that meet today's standards of quality, quantity and balanced package production

Permanent accuracy of twist is built into the Uni-Rail—precision machined from one solid piece of metal, taking the place of hundreds of individual parts. Spindle swings are of the new, rigid, double-bearinged design, accurately tensioned. Constant spindle speed is assured through the use of large single idlers and automatic belt tension control.

Let us help you figure the advantages and savings from producing *your* yarn on Atwood UniRail Twisters. We offer you unequalled engineering, delivery, erection and service facilities. Get in touch with

**THE ATWOOD MACHINE CO.** STONINGTON, CONN., U. S. A.

WILKES BARRE CHARLOTTE LOS ANGELES

Snapped when they stopped at the tenth tee for refreshments at the North Carolina Cotton Manufacturers Association golf meet at Pinehurst, N. C., recently,—left to right, Walter L. Toy, president of Scott & Williams, New York; Fred Hallenback, also of Scott & Williams, High Point, N. C.; George Porges, of Kaumagraph Co., New York.

dextrines, which are used by the textile and other industries.

**Exhibitors Advisory Council,** New York, has published its Annual Schedule of Shows and Exhibits for 1940 listing data on 350 American shows.

**United States Rubber Co.,** New York, reports that J. B. Spotswood, branch operating manager at Chicago retired from active business on Nov. 30 and has been succeeded by W. J. Laliberte, formerly branch operating manager at Kansas City. C. A. Gray from Buffalo succeeds Mr. Laliberte, and H. A. Dathe, of the headquarters staff in New York, succeeds Mr. Gray.

**Republic Steel Corp.,** has appointed C. W. Ruth as director of advertising to succeed Stanley A. Knisely who has become executive vice-president of Associated Business Papers, Inc.

**Packaging Institute,** New York, held its first annual meeting in Chicago, Oct. 19 and 20. The body was formed last spring by merger of Production Managers Association and Packaging Machinery Manufacturers Institute.

**American Engineering Co.,** Philadelphia, manufacturers of Lo-Hed Monorail Electric Hoists, announces the appointment of A. C. Cooper Sales Co., New York, as sales representatives for Metropolitan New York, Northern New Jersey and Long Island.

**Spencer Lens Co.,** Buffalo, N. Y., held an "Open House" for employees, local business, professional men, and editors of business publications, to mark the opening of the company's new and additional plant, on Oct. 26, in Cheektowaga, N. Y., near Buffalo. A planned program of research and development, as well as entrance into new fields of scientific instrument manufacture, made the expansion necessary. The building is 210x410 ft., of steel, brick and concrete construction.

**Allis-Chalmers Mfg. Co.,** Milwaukee, Wis., reports that Ralph S. MacPherran, chief chemist, for many years, and identified with the iron and steel industry for nearly 50 years, is retiring from active service. Harold J. Stein, research engineer of the manufacturing department has been appointed director of research, chemistry and metallurgy of the Allis-Chalmers, thus bringing all these activities under one head. His assistant will be J. T. Jarman.

**Hygrade Sylvania Corp.,** Salem, Mass., has appointed Charles G. Pyle as sales manager of Hygrade Lamp Division. Mr. Pyle fills the vacancy

Charles G. Pyle, Hygrade Sylvania

left by the retirement of S. N. Abbott, under whom he served for many years as assistant sales manager. For a time he will work from Chicago, but later he will establish headquarters in New York at 500 Fifth Ave.

**Armco Culvert Manufacturers Association,** Middletown, Ohio, has adopted the new name of Armco Drainage Products Association. Officers include: W. H. O'Neall, president; H. W. Force, vice-president, M. F. Shelt, secretary-treasurer.

**Canadian Aniline & Extract Co.** has appointed J. H. Lowe, as representative in Quebec and the Maritime Provinces with offices at 17 Howard Ave., Sherbrooke, Que.

**American Viscose Corp.,** New York, has appointed William G. Luttge, who has been with the company for 15 years, to take charge of Vinyon sales. Vinyon will be made at the Meadville, Pa., plant.

**Lubriplate Division of Fiske Bros. Refining Co.,** Newark, N. J., has appointed J. A. Jepson as district sales manager with headquarters in Atlanta. Mr. Jepson was previously a representative of Link-Belt Co.'s Atlanta sales force.

**Pennsylvania Salt Mfg. Co.,** after nearly three-quarters of a century on its present site in Philadelphia, is moving its Philadelphia plant to a new location more suitable for an expansion program, according to Leonard T. Beale, president. The research laboratory and pilot plant operations will also be moved to the new site. The executive, accounting, and sales offices will remain as at present at 1000 Widener Building, Philadelphia.

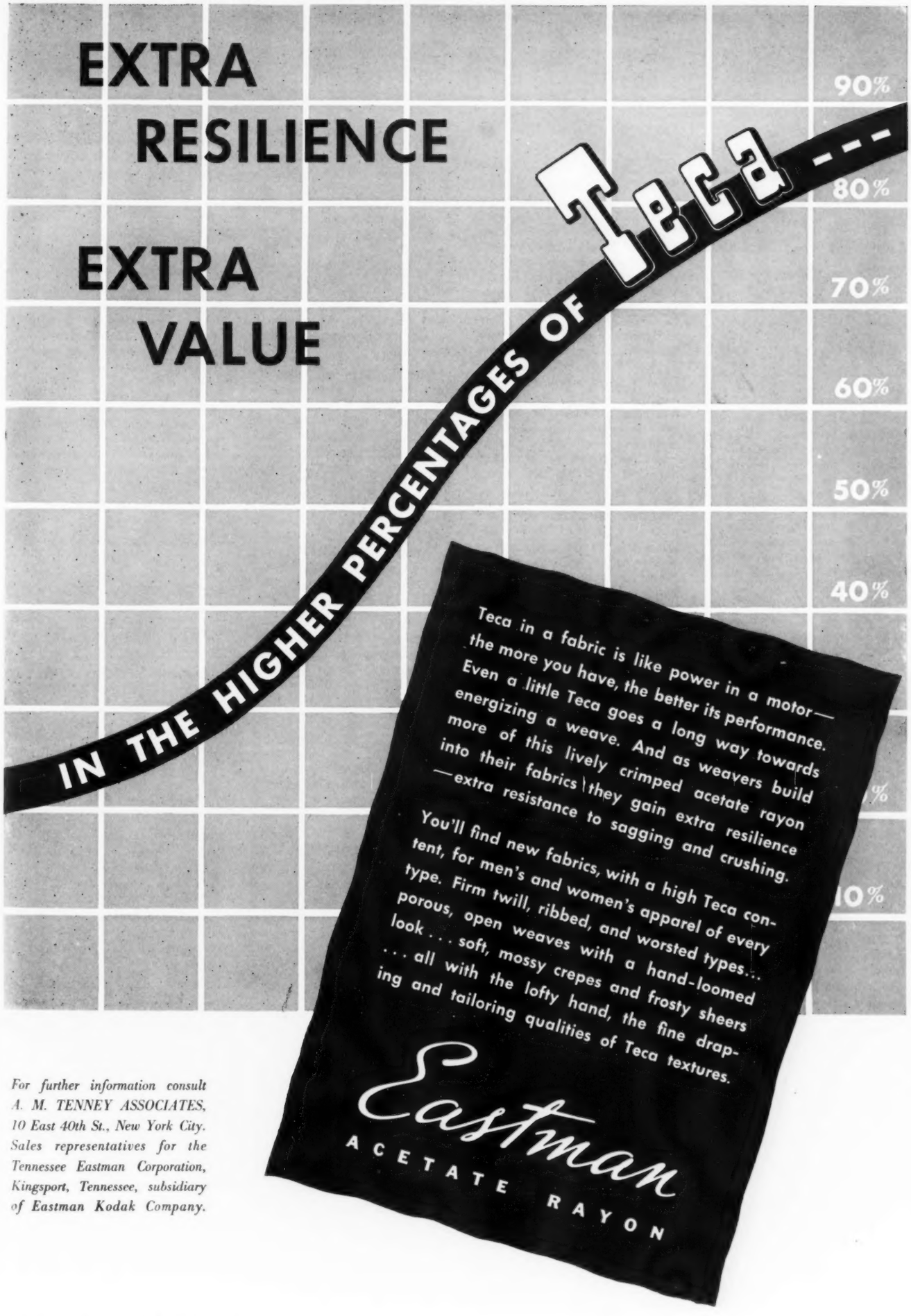
**Boyce Weaver's Knotter,** Gastonia, N. C., announces plans for the construction of several new buildings for expansion purposes.

**Cutler-Hammer Inc.,** Milwaukee, Wis., through C. J. Maloney, western district manager, announces that Terry Fisher has been appointed to take charge of the Northern Indiana territory with headquarters in South Bend.

**Westinghouse Electric & Mfg. Co.,** East Pittsburgh, Pa., reports that orders booked for the first nine months of 1939 were $153,976,777, compared with $113,170,228 for the same period in 1939, an increase of 36 per cent. A. W. Robertson, chairman of the board, issued a statement saying, "We have reason to think that most of this improvement in business is not due to war or the stimulation of war, but to sound, steady recovery in the country's economy."

## Foxboro, Town and Company

An excellent example of a public relations effort which brings the community into the industry's picture is the booklet recently published entitled "Foxboro and Foxboro." This is an informal presentation of a small New England town and its industry, typical of many such thriving communities in the United States. The town and the company are intimately interrelated. Located in the heart of Massachusetts, the town is representative of New England skill and craftsmanship. The company is engaged in the production of instruments for the measurement and control of industrial processes. Thus the company is dependent on the town for maintaining the standard of its workmanship, while the town is dependent on the company for a large part of its employment and prosperity. Copies of the booklet, which tells the story of these two related parts in a most interesting way, may be obtained from the Foxboro Co., Foxboro, Mass.


EXTRA RESILIENCE
EXTRA VALUE
IN THE HIGHER PERCENTAGES OF Teca
90%
80%
70%
60%
50%
40%
Teca in a fabric is like power in a motor—the more you have, the better its performance. Even a little Teca goes a long way towards energizing a weave. And as weavers build more of this lively crimped acetate rayon into their fabrics they gain extra resilience —extra resistance to sagging and crushing.
You'll find new fabrics, with a high Teca content, for men's and women's apparel of every type. Firm twill, ribbed, and worsted types... porous, open weaves with a hand-loomed look . . . soft, mossy crepes and frosty sheers . . . all with the lofty hand, the fine draping and tailoring qualities of Teca textures.
Eastman
ACETATE RAYON

*For further information consult A. M. TENNEY ASSOCIATES, 10 East 40th St., New York City. Sales representatives for the Tennessee Eastman Corporation, Kingsport, Tennessee, subsidiary of Eastman Kodak Company.*

# FREE FOR THE ASKING

Readers interested in literature reviewed on this page may secure copies by writing to Textile World, 330 West 42nd St., New York, giving their company connection, title of item desired, and date of issue in which it was reviewed.

**Resins.** Rohm & Haas Co., Inc. Fourth leaflet in a series describing company's Rhoplex resins discusses suggested formulas for finishing fabrics of various types.

**Lighting Fixtures.** Wiremold Co. Illustrated folder describes company's strips and reflectors for use with fluorescent lamps; included are several installation photographs and diagrams of typical applications.

**Packing and Shipping.** Acme Steel Co. Illustrated 24-page booklet describes company's equipment and methods for packing and shipping, with particular emphasis on all types of export packs.

**Cards and Garnetts.** Proctor & Schwartz, Inc. Two leaflets — one describes and pictures company's Duplex garnett unit with three-cylinder breaker and two-cylinder finisher; the other describes company's metallic worsted card and lists a number of advantages which it is said to make possible.

**Building Construction.** Austin Co. 8-page study outlines factors underlying selection of single- or multi-story buildings for industrial purposes; included are graphic representations of comparative costs of various factors entering into building construction.

**Time Recorders.** Stromberg Electric Co. 4-page folder illustrates and describes company's model No. 15 time recorder, said to handle complicated time schedules and eliminate crowding and delay in punching-in or out.

**Speed Reducers.** W. A. Jones Foundry & Machine Co. Bulletin 75, sixteen pages, covers worm-helical speed reducers developed for vertical-shaft drives for agitators, mixers, etc., where large reduction in speed is required.

**Fabric Identification.** Kaumagraph Co. Loose-leaf booklet contains information concerning fabric identification, Federal Trade Commission rules, standards and practices of various associations in the textile industry, and other authoritative data.

**Blowers and Exhausters.** Roots Connersville Blower Corp. Bulletin No. 120-B-11 contains 20 pages describing and illustrating single and multi-stage centrifugal blowers and exhausters; included are pressure-volume curves and information regarding operating characteristics of the equipment.

**Tank Painting.** American Asphalt Paint Co. Folder contains data on painting interior and exterior surfaces on all kinds of tanks and supporting structures; included is information on surface preparations, instructions for painting various types of tanks, methods for estimating surface areas and amount of paint required, etc.

**Rayon.** Boston Better Business Bureau. Booklet contains brief answers to questions concerning rayon's history, processes of manufacture, characteristics; also data on spun rayon, tests for rayon, descriptive terms, etc.

**Electrical Connectors.** Burndy Engineering Co., Inc. Catalog No. 41 contains 64 pages of illustrations, descriptions, and data sheets concerning various types of electrical connectors; included is information on types, sizes available, shipping weights, and other important factors.

**Belt Lacing.** Flexible Steel Lacing Co. Bulletin V-200 describes new line of fasteners for V-belts; shows how fasteners are applied and illustrates various types of applications.

**Steel.** Joseph T. Ryerson & Son, Inc. Data book contains valuable reference material, including heat, hardness, and numerical equivalent tables; weight, dimension and specific gravity tables; carbon steel, drill rod, non-ferrous, tubing, sheet, and manufacturing tolerances, etc.

**Motors and Drives.** Allis-Chalmers Mfg. Co. 28-page booklet, No. B-6029, contains data on company's Lo-Maintenance motors and Texrope drives; included are a number of installation photographs, price data, construction and dimension diagrams, and other useful information.

**Looms.** Draper Corp. October issue of *Cotton Chats* contains illustration and data on company's new XD model rayon loom and comparative data on an up-to-date loom of thirteen years ago.

**Valves.** Lunkenheimer Co. Catalog No. 78 illustrates, describes, and lists company's complete line of bronze, iron, and steel valves; boiler mountings; lubricating devices; oil and grease cups; whistles, cocks, fittings, etc.

**Variable - Speed Control.** Reeves Pulley Co. 4-page folder pictures and gives data on company's three basic speed control units — variable-speed transmission, vari-speed motor pulley, and Motodrive.

**Stokers.** Link-Belt Co. November issue of *Link-Belt News* contains article describing automatic control of underfeed stokers in recent installation at Riverside & Dan River Cotton Mills.

**Drills.** Whitman & Barnes. Catalog No. 96 contains illustrations and listings of complete line of drills, reamers, screw extractors, counterbores, interchangeable punches, etc., manufactured by this company.

**Instruments.** Brown Instrument Co. Booklet No. 2-17 describes new line of thermometers and pressure gages manufactured by this company; indicating and one, two, and three-pen recording models are illustrated.

**Pulleys.** American Pulley Co. 12-page booklet, No. P-39 describes company's steel split pulleys; included are installation photographs, price lists, data on hub and bore sizes, and other useful information. 4-page leaflet gives information on company's Sprucolite motor pulleys and contains price list and other data.

**Bearings.** Johnson Bronze Co. Unique slide-rule type size finder makes it possible instantly to locate over 800 stock sizes of general purpose bearings available for immediate delivery.

**Water Conditioning.** Permutit Co. 8-page booklet illustrates and describes company's electro-chemical feed for apportioning chemicals in wet form at a constant or variable rate in water conditioning systems.

**Lubrication.** Standard Oil Co. November issue of *Esso Oilways* contains feature article describing printing of textiles by the Aridye method; the October issue of this publication includes a short item on "Rust Prevention on Hosiery Machines."

**Fiberglas.** Shell Oil Co. September issue of *Shell Progress* contains article describing recent advances in the glass industry; included is a section on discovery and progress in the field of Fiberglas.

**Heaters.** B. F. Sturtevant Co. Catalog No. 396-7 describes and illustrates, in 24 pages, company's line of unit heaters for industrial and commerical installation; included are various data on sizes, capacities, etc.; a special section discusses heaters for use in textile mills.

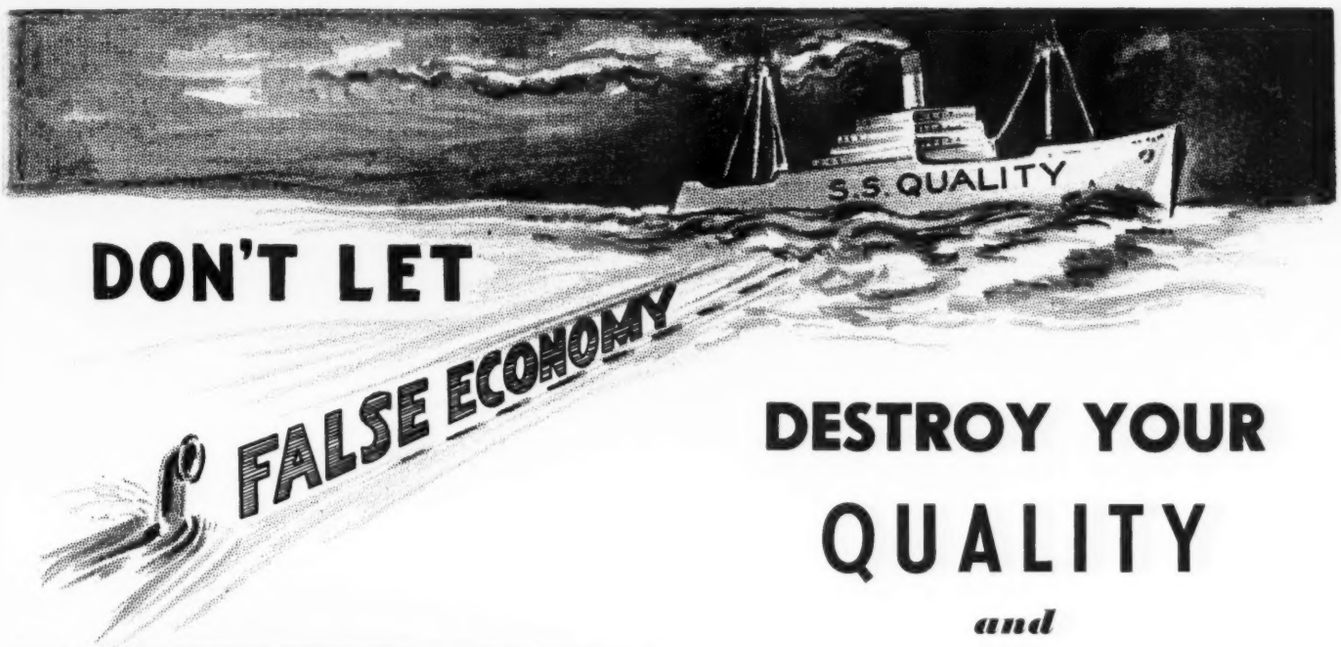
**Knitting Machine.** Wildman Mfg. Co. Illustrated leaflet contains actual sample of material produced on Wildman jersey machine, and illustration of type of punch used for making patterns.

**Stainless Steel.** Ingersoll Steel & Disc Div., Borg-Warner Corp. Illustrated leaflet describes uses of company's stainless-clad steel and points out advantages of the clad feature.

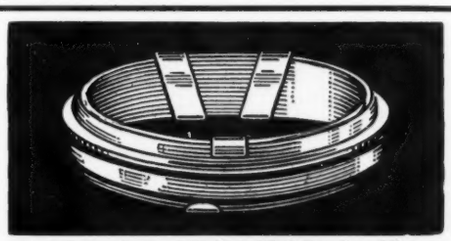
**Platinum Products.** Baker & Co., Inc. 16-page booklet describes company's platinum products for the chemical and allied industries; included are illustrations and descriptions of rayon spinnerettes and platinum parts used in production of glass fiber.

**Scales.** Toledo Scale Co. Illustrated brochure shows how scales can cope with modern weighing requirements of the textile industry; numerous installation photographs are included. Another booklet describes in words and pictures the new manufacturing plant of this company.

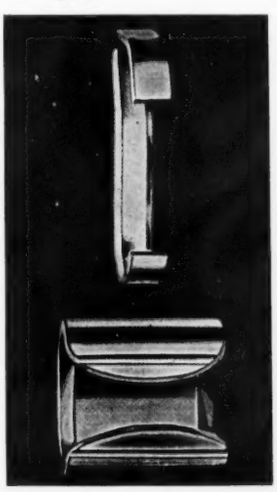
**Dryers.** Proctor & Schwartz, Inc. 6-page folder, No. 278, describes laboratory dryer manufactured by this company; included also are brief descriptions and illustrations of several other types of dryers which are available.




# DON'T LET FALSE ECONOMY DESTROY YOUR QUALITY *and* PROFITS! *Use* U. S. TRAVELERS



*Above*—Bowen *Patented* Vertical Offset Traveler—After exhaustive tests under actual running conditions, the Bowen Patented Vertical Offset Traveler has proved its worth in the twisting of cords and plys. Based on the true mechanical principle of taking a diagonal position with relation to the ring, presenting a bearing surface over the full width of the Traveler. This design prevents gripping or binding—gives an even tension—an evener rounded product—longer life to the traveler. Send for samples and prices.



*Left*—Bowen—*Patented*—Bevel Edge—The Bowen Patented Bevel Edge feature of U. S. Ring Travelers produces ideally smooth, even yarn. There are no angular edges to flatten the end. There are no split ends in throwing rayon and silks—no fly waste in the spinning and twisting of cotton, wool, worsted, asbestos, kindred fibres. Made and stocked in all sizes and weights, for all kinds and counts of yarns.

*Right*—*High*—Ne-Bow—*Patented* Vertical Ring Traveler—Developed to meet the particular needs of the silk and rayon trade in the process of throwing, due to the recent adoption of the vertical ring, particularly of the lubricating type.

By eliminating the pivoting action of the traveler, the traveler is at all times kept in close contact with the groove or device for lubricating the ring and assists in drawing therefrom the lubricant, distributing the same evenly over the entire inner surface of the ring; promoting a longer life to the traveler and a more even twist.

Use U. S. Travelers for smooth sailing—for protection against losses and troubles from travelers *not* so exactly designed and built for their specific work. U. S. Travelers are the result of years of specialization, developed to meet definitely the needs of today—that is why they are the choice of experienced textile operators.

• *Sold under the trade names*

| | |
|---|---|
| Bowen Round Point Travelers | Bowen Patented Bevel Edge |
| Bowen Square Point Travelers | Bowen Patented Ne-Bow Vertical |
| Bowen Improved Vertical Bronze | Bowen Patented Vertical Offset |

Bowen Flat Oval and Round Wire Travelers

## U. S. RING TRAVELER CO.

**PROVIDENCE RHODE ISLAND**

Amos M. Bowen, Pres. and Treas.

SALES REPRESENTATIVES:

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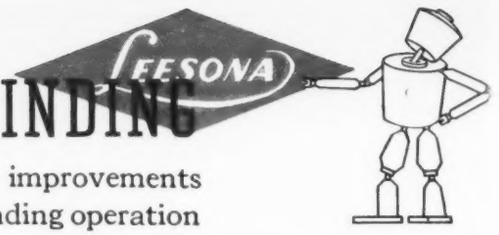
**A Traveler for Every Fibre**

THIS IS NO. 18 OF A SERIES ON

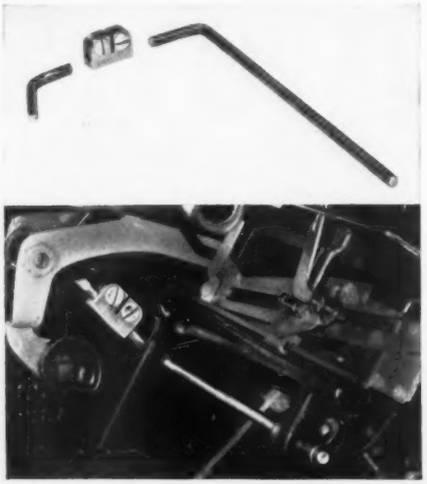
# GETTING THE MOST FROM WINDING




Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

## QUICK REPLACEMENT OF WORN DOGS (No. 50 Winder)

Because of a new design of Traverse Frame Dog, it is possible to replace worn Dogs without loss of time removing the Traverse Frame from the machine.



*Coupling for New Two-Piece Dog*

The end that contacts the Segment can be sawed off, and the rod that remains in the Traverse Frame can be coupled to a new end piece as shown in the illustration. At any future time, it will only be necessary to replace the small end piece by disconnecting it from the coupling.

In addition to the convenience in replacing worn Dogs, this new two-piece design has the following advantages:

1. The end piece can be turned in the coupling so that it will be parallel with the Segment; this makes a more perfect contact with both walls of the groove in the Segment.
2. The end piece can also be tilted in the coupling so that the entire length of the dogging surface will contact the Segment. Some mills prefer a "toe or heel" contact, but we recommend that the full length of the dogging surface be used for best winding results.
3. With the proper setting, wear is distributed over the entire dogging surface, which increases the life of the Dog.

One-piece Dogs that were purchased recently and are still in good condition can be cut apart, and with the new coupling, will provide the increased life and other advantages of the Two-Piece Dog.

## STARTING YARN ON SMALL-DIAMETER TUBES (No. 50 Winder)

When winding coarse yarns or high-twist yarns on small-diameter tubes, the yarn has a tendency to slip or pull in at the ends of the traverse, producing packages with poor centers.

*Starting a 5/8" diameter Paper Tube*

To provide a better gripping surface, the operator can wind a few coils of yarn on each end of the bare tube as illustrated. A hook is used when the yarn is under tension so that the operators' fingers will not be cut or burned.

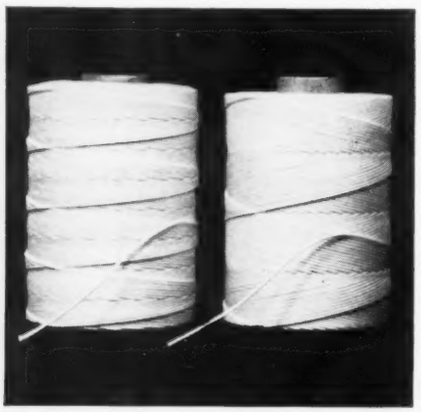
In some mills the operator is provided with a wet sponge, kept in a little container of water placed on the winder. Before starting up an empty tube, the operator wets the paper near the ends of the traverse; this also makes a better gripping surface for the yarn.

## CHANGING WINDS WHEN CHANGING COUNTS OF YARN (No. 50 Winder)

With some types of material, a mill changing from fine to coarse counts of yarn will find it difficult to wind packages without bulging.

In some cases it will be possible to overcome the tendency to bulge by adjusting the tension or pressure. If not, it will be necessary to reduce the number of winds to obtain good self-supporting packages.

When *reducing* the number of winds on the No. 50 Winder, the cam speed is automatically increased. If the cam speed exceeds 250 R.P.M., it will be necessary to change the driving pulley to reduce the speed of the winding spindles.



*Package at left was wound with 4 winds and shows a tendency to bulge on the end. Package at right was wound with 2 winds which increased the angle of yarn across the package. Note the good square end. Changing from 4 winds to 2 winds, reduced the spindle speed from 2000 R.P.M. to 1000 R.P.M.*

When changing back from coarse to fine counts of yarn, it is advantageous to increase the winds to get the benefit of higher spindle speed. To determine the proper spindle speed, multiply 250 R.P.M. (the safe maximum cam speed) by twice the number of winds.

"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

# THE OVERSEERS' CORNER

A PETE AND BILL DISCUSSION

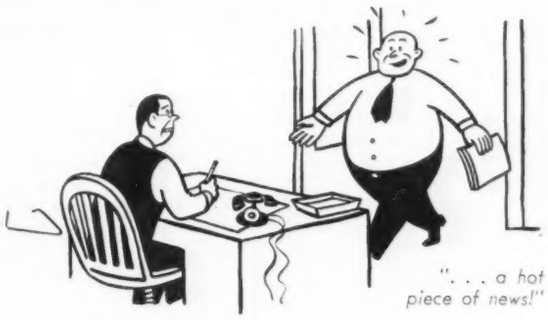
## SELLING VILLAGES TO WORKERS

"Just heard a hot piece of news, Bill!" declared Pete excitedly one day. "Aybecy Mfg. Co., across the river is going to sell its village to the employees."

"Yes, and they're going to have plenty of trouble," said Bill, scowling. "Doggone fools!"

"Fools!" expostulated Pete. "Why I think they are doing a smart thing. You know, Bill, that mill-owned villages are on the way out. Not only are they a financial burden to the company which owns them, but they also represent a form of paternalism which is no longer necessary. Property owners are more stable than renters."

"Maybe villages are a burden," replied Bill, "but at least you know who lives in them. If Aybecy sells these houses, it will have absolutely no control over the tenants. Some one may open a boot-leg joint next door to the mill. Then what can the mill do?"



". . . a hot piece of news!"

Pete looked pityingly at Bill. "That is a silly argument. You know the good people in the village will keep bad ones out in their own manner. As householders they'll be more responsible citizens."

"Responsible! My eye!" snorted Bill. "They'll be the same lot as they were before, with a little less free cash. And that mill'll have a bunch of its houses back on its hands before long."

**Should Mills Sell Villages to Employees?**

# Letters From Readers

## Help for the Help Is a Help

**"Informal Classes for Workers"**
**Pete & Bill, July, 1939**

Editor, Overseers' Corner:

I thoroughly agree with Pete in his attitude toward his subordinates in the August issue of TEXTILE WORLD. He can help himself, his department personnel, and probably some deserving young man in his employ by giving informal instruction. At the same time he can "bone up" on small matters that were large to him in his apprenticeship, but are handled by second hands and sectionmen now that he is overseer, and concern him only indirectly. Every problem will bring back a memory of how he learned in his struggling days.

I think it is a good idea, and think quite a few overseers could improve their jobs by such practice. The personal touch will inspire loyalty, and an overseer with a department of loyal, satisfied hands has little to fear. Any hand will put just a little extra effort into his work if he thinks the boss is interested in his welfare; that is any of them except a few lunkheads who couldn't be pulled out of their rut with a chain hoist. Looking forward to another cuss and discuss-ion next month by Pete and Bill. Long may they disagree!

—J. W. NABORS *(Georgia)*

## Time Clock Regulations

**"Time Clocks and Arguments"**
**Pete & Bill, Sept., 1939**

Editor, Overseers' Corner:

Pete doesn't go far enough in defending the time clock. It is true that most of us at first do not like the time clock as its use appears to belittle our own self-importance. Yet, if any have had as much disagreement and argument over work time as I have experienced, especially in times of stress, they would more than welcome the way out that is afforded by the use of time clocks. As in any method of time keeping, questionable practices can very easily arise. But to correct or prevent their occurrence, management must adhere closely to the two following principles:

1. Management must insist that each and every card be punched consistently and regularly.

2. No one, not expressly authorized by management, may punch the card of another worker.

Only by such regulations can full value of the time clock be realized and time-keeping complaints eliminated.

—Z. E. SARGISSON *(Akron, Ohio)*

## Home Lunch Better Than Cheer Wagon

**"Cheer Wagons—For or Against"**
**Pete & Bill, Oct., 1939**

Editor, Overseers' Corner:

The discussion in connection with "Cheer Wagons" in your October edition is about as controversial as the

**CONTRIBUTIONS to the letters and practical helps in "The Overseers' Corner" are paid for when published without regard to length. We use letters (not over 200 words) discussing the material on this page or any other pertinent matter whether of mechanical, managerial or just plain human interest. Those who contribute practical helps or kinks which are published (not over 500 words) will be paid additional for an appropriate sketch to illustrate their device. It is not necessary to submit finished drawings. Contributions of greater than specified length may be given consideration as articles. If these pages interest you —contribute something to them to interest others. Address Editor, Overseers' Corner, Textile World, 330 West 42d St., New York.**

### North Carolina Safety Contest Winners

Winners of the fourth North Carolina safety contest, sponsored jointly by the Cotton Manufacturers Association of North Carolina and the State Industrial Commission, were announced at the association's fall convention held recently at Pinehurst, N. C. The trophy winner in Group I was Jewell Cotton Mills, Inc., Thomasville, which operated 244,680 man-hours without a lost time accident. In Group II, Southside Plant of Arista Mills Co., Winston-Salem, was first with 432,360 man-hours. Longhurst Plant of Roxboro Cotton Mills, Roxboro, won the Group III trophy with 667,120 man-hours. Revolution Cotton Mills, of Greensboro, was awarded the Group IV trophy having 1,334,155 man-hours, with only one lost time accident.

The safety committee consists of Marion W. Heiss, chairman, Greensboro; C. C. Campbell, Spray; E. M. Hunter, Jr., Durham; E. A. Smyth, III, Balfour; and W. H. Ruffin, Durham.

question of liquor and tobacco. Certainly nobody ever benefited physically in any way by the indulgence in these two vices even though they do effect a lot of pleasure. It is my opinion that where the workers are permitted to partake of a light lunch, brought from home, during operations and have electric water coolers at their disposal, they will be just as happy and healthy without the "Cheer Wagons." And they will be definitely in pocket, so far as their finances are concerned, at the end of the week and thus be ahead in the long run.—W. R. BELDON, *Manager Clark Thread Co. of Ga., Clarkdale, Ga.*

# Overseers' Practical Helps

## Repairing Friction Gears

Friction gears that are found to be badly worn from constant pressure of the friction follower can easily be repaired, without removing the gears from the loom, by inserting thick split washers. The thickness of the washers should be governed by how much the gears are worn, as all pressure and wear after the washers are in place will be on the washers and not on the gears. The washers can easily be replaced when they become worn. The washers must be made so that they will fit tightly on to the friction gear, in order to insure best results.

The writer has had friction gears repaired in this manner last as long as new gears.—PETER C. WAYNER (*Mass.*)

## Reducing Pull-Threads in Full-Fashioned Hosiery

We were faced with the serious problem of pull-threads which had been occurring in our hose over quite a period of time. Careful check of the work was kept from the time it left the machines until it was seamed and looped; and still there would be pull-threads in the hose. We were almost at our wits' end when finally we discovered that a simple style ticket was the cause of all our trouble.

These tickets may cause untold damage to expensive merchandise if the square corners were not removed. However, if the tickets are cut round, there is little or no chance of their damaging the hose.

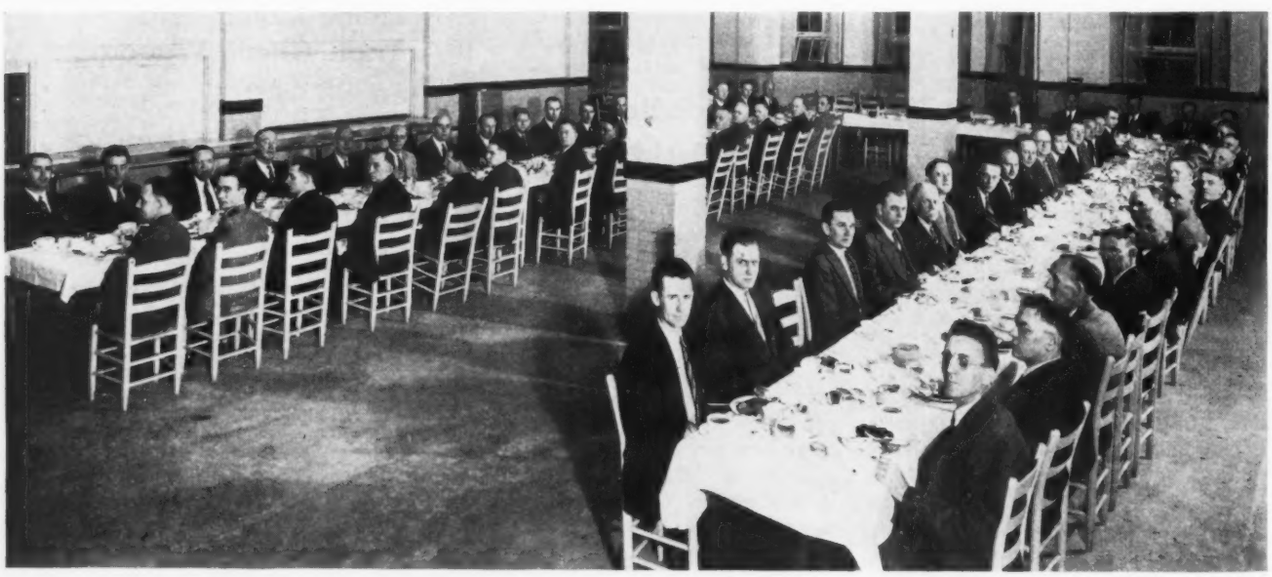
If you are experiencing difficulty with pull-threads, that are difficult to trace, especially on your 2-thread hose, perhaps the trouble can be traced to the sharp corners on the style tickets.

—RUSSELL D. COLLINS (*Tenn.*)

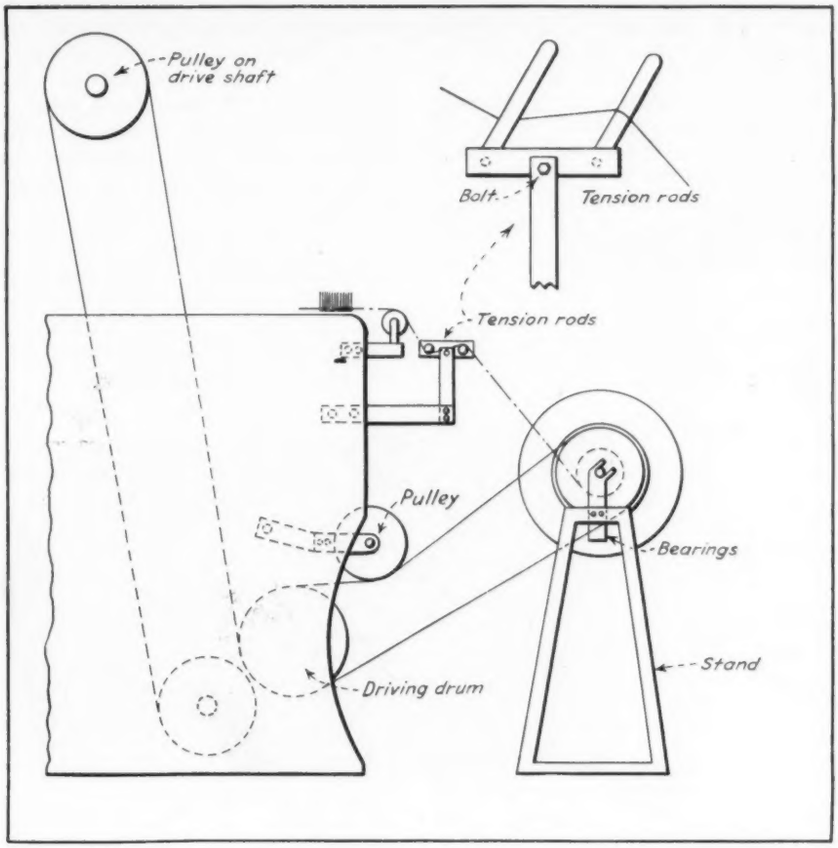
## Handling Rayon Warps Faster

One of the most important factors in rayon warping, slashing, and weaving is the element of time. The arrangement shown in the accompanying sketch not only saves time, but reduces handling of warps, which makes for better warps. This arrangement is useful in instances in which top beams are required with the number of ends not exceeding the capacity of the V creel. The idea is to run the warps directly on to the warp beams instead of on to section beams, which would necessitate rebeaming.

The stand was made from angle iron and bearings bolted to this frame. The warp beam was driven by a belt running from the driving drum. Take-up in the belt was taken care of by bolting a



The Greenville (S.C.) Textile Club, an informal organization of Greenville County overseers and superintendents, photographed at a recent meeting at Parker High School. This group, organized in 1924—when Parker District was established, has 213 members at present. L. P. Hollis, superintendent of Parker District, and C. W. McSwain were instrumental in founding the club. Primary purpose of the club is to promote good fellowship. Occasionally an outside speaker is brought in to discuss some timely subject. Present officers are Charles Lawton, Judson Mills, president; W. S. Huff, Dunean Mills, vice-president; and Loui Greet, Parker High School, secretary and treasurer. Guest speaker at this particular meeting was William G. Ashmore, southern editor, TEXTILE WORLD, who addressed the group on textiles in South America.




Device saves time in making rayon warps

pulley to the beam hoist, which could then be raised or lowered as needed. The speed of the warp beam was increased by putting a larger pulley on the drive shaft. Tension in the warps was fixed by tension rods, which are shown in the enlarged insert. These are so held by a bolt that they can be turned to give any degree of tension required. Should the tension be too great, it can be reduced by setting the tension rods in ball bearings.—F. G. B. (*N.Y.*)

# Preparation of Rayon Blends

## Considered by North Carolina-Virginia Operating executives at Greensboro Meeting

**PREPARATION** of rayon blends was the chief topic discussed at the Greensboro, N. C., meeting of the Northern North Carolina-Virginia Division of the Southern Textile Association. Herman Cone, president of Proximity Mfg. Co., Greensboro, addressed the group on the "Responsibilities of the Modern Foreman." W. J. Jennings, of Minneola Mfg. Co., Gibsonville, N. C., chairman of the group, presided. T. C. Pegram, superintendent of Erwin Cotton Mill Co., Cooleemee, N. C., led discussion.

Mr. Pegram requested Leslie L. Cobb, Teca Division, Tennessee Eastman Corp., Kingsport, Tenn., to answer informally the various questions asked by the mill men. A summary of Mr. Cobb's remarks follows: "A popular rayon mix is 80% viscose and 20% acetate. This is mixed by the "sandwich" method, which consists of spreading a layer of viscose on the floor of the mixing room and covering it with a layer of acetate, and repeating until the quantities weighed out are used up. The layer of acetate obviously is only one-fourth as thick as the viscose. When mixing is completed, the blend is put into bins and then into a picker hopper, where it is run through at the regular rate. Some mills mix in the second-process picker and others mix during the drawing with good results, but these processes may be troublesome.

"It is not advisable to mix cotton and acetate during the opening process because this would entail an extra waste item. The cotton should be well cleaned and opened separately. It is important that the sandwich mix with cotton and rayon be properly made, because the picker tends to bite off chunks of rayon and produce slubs or nep which will show up in the carding.

"Excessive waste from rayon and cotton blends should be avoided as more rayon than cotton tends to hang to the card flats. This obviously will lower the percentage of rayon in the finished yarn. Also, more acetate than either cotton or viscose tends to drop out of the roving.

"In order to prevent breaking the acetate fiber in the picker, ¾-in. clearance is recommended between the Kirschner beater and the feed roll. This is 1½ in. from the bite. On single-process pickers, there should be at least one carding beater. Beater speeds should be the same, not over 600 r.p.m. It is advisable to beat the rayon as little as possible, not over 45 beats to the inch."

**J. W. INSCOE**, overseer of carding, Erwin Cotton Mills Co., mentioned that he blends viscose with cotton by means of the sandwich method, but also runs the mix through all openers and pickers. No rayon (or cotton) is lost by this method, because jackets are put around the machines. The cotton is precleaned before mixing with the rayon. S. S. Holt, general superintendent of Travora Mfg. Co., Graham, N. C., reported that he blends rayon mixes in the hopper back of the finishing picker. The rayon is first tinted, although this practice is sometimes troublesome, because of surplus moisture.

Harry W. Smith, of Tennessee Eastman Corp., reported that length of staple in blends is not so important as getting the greatest number of fibers possible in the yarn. Coarse deniers give fewer fibers and lower breaking strength, and have to be used with caution.

Mr. Cobb added that with 1-in., 150-den. rayon staple feed-roll gage on card should be 0.012, although many mills successfully run 0.016; lickerin speed should be 200 r.p.m. The closer the lickerin to feed plate the better.

S. W. Robb, general manager, Erlanger Cotton Mills, Lexington, N. C., took slight exception to some of these statements, saying that he finds 250 to 350 r.p.m. the best speed for the lickerin, and 0.016 the best setting for the feed plate.

With reference to handling staple rayon on drawing frames, R. E. Lind-

say, Saco-Lowell Shops, Charlotte, N. C., recommended basic settings as follows: first to second roll, 3/32 to 1/8 in.; second to third, 7/32 to 3/8 in.; third to fourth, 3/4 to 7/8 in. Also, it sometimes is necessary to use a No. 2 roll stand, especially if long staples are being run.

John D. Scott, superintendent, Proximity Mfg. Co., and S. H. Holder, assistant superintendent, Consolidated Textile Corp., Lynchburg, Va., were elected to the executive committee, succeeding R. H. Armfield and G. H. Mehaffee.

# Schedules and Records

## Discussed at Durham Meeting of Eastern Carolina S.T.A.

**OPERATING SCHEDULES** and records were discussed at the Durham, N. C., meeting of the Eastern Carolina Division of the Southern Textile Association. In the absence of J. B. Batton, Sr., Rosemary Mfg. Co., Roanoke Rapids, N. C., chairman of the division. W. H. Miley, Jr., superintendent of Mill No. 5, Erwin Cotton Mills Co., presided over the meeting. W. M. McLaurine, secretary of A.C.M.A., addressed the group on human relations in industry.

C. L. Carrow, Jr., assistant overseer of carding, Mill No. 1, Erwin Cotton Mills Co., presented a detailed cleaning schedule for Super-draft speeders: The first shift oils the shell and hangs the weights on Monday morning. The second shift drops the weights, takes out the shells and wipes the arbors on Friday night. The other work on the frames is the same for both shifts. It includes wiping the guides every other doff (2 hr.), picking front rollers once a day, picking top clearers every other doff, picking front bottom clearers every other doff, picking back bottom clearers once a day, cleaning top rolls (other than front rolls) once a week, cleaning carriage every other doff, wiping breast beam behind flyers daily, picking flyers before letting down ends to doff, picking stands weekly, oiling bolsters weekly with spindle oil, oiling bobbin gears weekly with special oil, cleaning head and foot of frame daily, keeping top of spindles clean, and keeping bolsters clean. The frame hands keep the spindle tops and bolsters clean and pick them as often as necessary.

Fig. 1. Operating executives at Durham meeting included C. W. Howell, J. E. Fields, R. A. Hughes, G. C. Julian, E. C. Johnston, G. W. Conard

Fig. 2. George Gilliam, of Roxboro Cotton Mills, Franklinville, N. C. (left), is secretary of the Eastern Carolina Division. W. H. Miley, Jr., superintendent of No. 5 Mill, Erwin Cotton Mills Co., led the discussion in the absence of J. B. Batton, Sr., of Roanoke Rapids, N. C.

For long-draft spinning, the schedule includes running out guides three times in 8 hr., rubbing off rails three times in 8 hr., brushing guide wires once in 8 hr., picking top slats twice, cleaning back guides once, wiping stands once, cleaning lap ticks twice, cleaning stands weekly, cleaning under guides weekly, cleaning ring rails weekly, cleaning roller bar and roving rods weekly, cleaning heads weekly.

Roving frames are wiped every third week, and rolls are cleaned once in 16 hr. Overhead cleaning in the card room consists of brushing and blowing down every 8 hr., mopping off pipes and humidifiers and wiping off windows after the blow-down.

Several other cleaning suggestions were made. M. R. Harden said that he uses a small twisted-wire brush with stiff hair to clean the rolls and down each side of the cradle in order to protect the workers' fingers. J. L. James described a device, which looks like an automobile cable, for cleaning the stands and between the rails. It clips to the rail and cleans by means of vibration. B. F. Aiken described a cleaning device which consists of a wire revolved by means of an "egg beater" arrangement. It is used for cleaning beneath top rolls.

**A DETAILED REPORT** on keeping cloth-room and weave-room records was given by C. W. Howell, assistant superintendent, Mill No. 5, Erwin Cotton Mills Co. Mr. Howell stated in part:

"When a cloth room inspector finds an imperfection in cloth that gives signs of not having been previously corrected he makes a report to the weave room. The notice includes the number of the loom and a description of the imperfections, and has several blank spaces for unlisted faults. Data from this report are transferred to a weekly record sheet which gives the number and location of each loom in the plant. This also has space for the cloth construction, as well as for each day of the week. There is a demarcation line for loom widths and a line for the weaver and loomfixer. Advantages of this system are: First, it gives a clear and accurate record of the imperfections for any individual loom; at a glance, there is a comparison between loom sections, weavers' sections, widths of construction, etc. Second, it provides loom production in cuts of cloth, which may be tabulated. Third, there is a perpetual loom list for construction changes. Fourth, it includes an individual loom record for supply and replacement cost.

These findings are compiled quarterly and the results made known to the loomfixers. This means that a loom which continues to produce imperfect cloth can be detected and the necessary corrections made. Some time ago, we found that 10% of our looms made 27% of all our imperfect cloth. These figures at once helped us trace the loom which was producing thin places in cloth, and subsequently the cause of the trouble—

a worn bearing. Without this system, we might never have found the cause of the thin places.

"When there is trouble, the loom number, the cause, and the number of yards of imperfect cloth are listed on a sheet of paper, where both the weaver and loomfixer may observe them. It is from this record that we obtain the percentage of imperfections for each weaver and each loomfixer. The percentages of each and the numerical ratings are published each week.

"Another record we have is for pick-outs or smashes. It provides space for the causes which are studied each week. For comparative purposes, we chart each week the percentage of imperfect cloth produced. Incidentally, this same chart may be used to record any number of things, such as average daily humidity readings."

# Efficient Rayon Quilling

## Requires careful regulation of tension and package size, and care in handling yarn

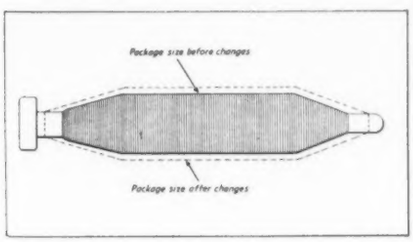
By ALFRED KING, Jr.

**EFFICIENCY IN QUILLING** rayon yarns requires machines in good operating condition; proper yarns; and trained, attentive operatives. Another highly important factor is attention to detail. Elimination of little inefficiencies may make the difference between a department up to par and one only partially effective.

In this article are a few suggestions as to how attention to detail can increase efficiency. It is impossible to cover all angles of the subject, since ingenuity is necessary. The importance of thoroughness in trying out ideas cannot be over-estimated. Many good suggestions have been discarded because they were not considered thoroughly.

Regulation of tension is important. Correct tension makes work easier; helps to eliminate soft quills, which result from too little tension; and stops stretching—the cause of shiners—which results from too much tension. These troubles are found mainly in working with no-twist or low-twist yarns. Regulating the tension at $\frac{1}{3}$ the denier of the yarn being run is a safe rule to follow. For example, a 100-den. yarn should be run at 33 grams tension.

On quillers equipped with a "D" unrolling supply, it is necessary to compensate for increases in tension as the supply on the bobbin becomes low. This increase averages 10 grams. Therefore, tension on a full bobbin is set at about 25 grams. By the time the supply is about run out this will have increased to 35 grams. Although this is a trifle over the indicated amount, the two figures average approximately 33 grams, and a variation of from 2 to 5 grams will not cause difficulty.




Thinner shuttle for and changed winder adjustments make possible additional yarn on quills.

Careful checking of tensions with a reliable instrument at least once daily, and more often in the case of very light yarns, gives best results.

Package size is also important. Highest efficiency cannot be obtained unless quills are made fully as large as shuttles will allow. In one mill which had been running a $\frac{3}{4}$-in. package, it was discovered that $\frac{1}{16}$ in. could be added to the diameter by using thinner fur in the shuttle. At the same time, the quill was filled to within $\frac{1}{4}$ in. of the end and winding was begun as close to the butt as possible.

It is possible to lay the beginning of the body of the quill directly over the bunch, without any bad effects, if the adjustment between traverse wheel and quill is correct. Size of package before and after these changes is illustrated in the accompanying sketch.

Finally, improper handling of yarn also lowers efficiency, through causing excess waste. With few exceptions, yarn comes to the winding department clean and in good condition. In order to keep it so, bobbins should be handled by the ends in unpacking, weighting, and winding, the yarn being touched as little as possible. The aim should always be to lower the amount of yarn which has to be pulled off and discarded.

# Knit Outerwear Design

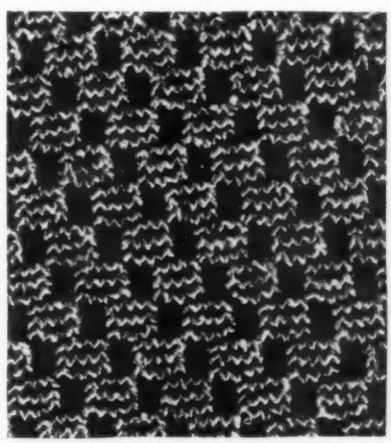
## Currently popular small over-all patterns can be made on almost any size cylinder

By LESLIE MINER

**SMALL OVER-ALL PATTERNS** can be produced by virtually any outerwear mill. Their adaptability to a wide range of cylinder sizes makes for comparative ease of production. Shown in the accompanying illustration is a small-checked fabric used chiefly for women's sport coats. The repeat is on six needles.

Following are the plans of the fabric shown in the illustration: Size of cylinder, 24 in.; gage of machine, 18; feeds on machine, 6 (3 pattern and 3 plain); size of pattern wheels, 120 needles once around; stitch to the foot of yarn, 54 needles; needles in cylinder, 882.

Feeds Nos. 1, 3, and 5 are plain and use two-ends of 1/20 woolen yarn. Feeds 2, 4, and 6 are pattern, with the wheel blocked 4-in and 2-out. These feeds use plied yarn of cotton nub twisted with rayon, equivalent in size to 1/28 woolen. The pattern wheels should be set on the first block of 4-in., all on the same needle in the cylinder.



Small over-all pattern fabric for outerwear

To do this, either bend or break a needle in the cylinder, turn the machine to No. 2 feed and set the pattern-wheel on the first block 4-in., in the direction of rotation of the wheel. Then set pattern wheels at feeds Nos. 4 and 6.

# QUESTIONS & ANSWERS

## Mixing Cotton of Various Staple Lengths

*Technical Editor:*

*From time to time I have read in your publication references to mixing cotton of different staple lengths in the opening room, in order to get a desired yarn breaking strength. However, none of these references has given any detailed information regarding this practice. This is true of such a reference in the article "Carder Know Your Cotton" in the March issue of TEXTILE WORLD.*

*I wonder if you could furnish more information on this subject. How far can one go in mixing different staple lengths without affecting the evenness of the yarn? What particular processing difficulties arise from such a practice, if any? Could the mixing of staples be used in the manufacture of high-grade print cloths without affecting their quality? There are other pertinent questions concerning this subject which will undoubtedly come to mind as you answer those listed above. (8648)*

The real length value of cotton from a yarn-strength standpoint is average or mean length, and not classified length. Fiber arrays have shown that different specimens of cotton, all classed as 1-in. staple, can vary in their mean lengths from .80 to .92 in. These low mean lengths will often account for loss of strength in warp yarn, even though the classified length of the cotton is maintained constant. This decreased mean length is mainly due to an increased percentage of fibers that are much shorter than the classified length.

A specific mixture of equal parts of cotton with classified lengths of 1 in. and 1⅛ in., maximum lengths of 1⅛ and 1¼ in., and mean lengths of .85 and .97 in. gave the following lengths in fiber array made from a picker lap: Maximum length, 1¼ in.; mean length, .92 in. The mean length corresponds to a uniform mix of 1 1/16-in. cotton and the maximum length is equal to cotton of 1⅛-in. classification. Skein strength showed up better than standard for 1 1/16-in. cotton.

This mixing of staple lengths has been successfully used with modern opening and blending equipment on 30s warp and 40s filling yarn with no loss in evenness or quality. Proportions as low as 1 long to 7 short bales can be used to sweeten the mix and bolster up the break. No data have been obtained for mixtures of greater differences in staple lengths than that stated, but it does not appear advisable to use longer cotton in mixtures because of the greater cost per pound and the increased proportion of short fibers in comparison to the maximum lengths.

The following points should be observed when running mixed staple: the same proportion of bales of different lengths should be used in all mixes; the same amount from each bale should be put into each feeder at each feeding; multiple blending feeders, with 3 or more delivering to the same feed table, give best mixture; blending hoppers or blending reserves improve the blending; roll settings must be made to maximum fiber lengths—these maximum lengths should be determined at the point of processing.

## Filling Bars

*Technical Editor:*

*Please give us your opinion of the cause of the filling bars in the inclosed sample. The filling yarn is a 1/20s worsted. (8642)*

Inspection of the cloth indicates these bars are caused by uneven filling. This, in turn, will probably be traceable to a too heavy roving or to uneven draft caused by improper setting of machinery.

## Lubricating Knitting Yarns

*Technical Editor:*

*We use worsted yarns in sizes ranging from 2/20 to 2/6. At present we are having all our yarn waxed on disk waxers. This is of some help, but as the wax is applied so sparingly, we are not satisfied that enough is being applied to the yarn by this method. Our knitting machines are all of the latch-needle type and we do not use humidifiers anywhere in the mill. Will you suggest the best method of lubricating the yarn and give advice as to the best materials for use in lubricating? (8685)*

Use of waxing disks on the winders seems to be an almost universal method of lubricating worsted knitting yarns. An adjustment should be possible to deposit the required amount of wax or paraffin on the yarn simply by using a heavier pressure on the disk.

## Hairy Back on Mohair Plush

*Technical Editor:*

*We are inclosing three samples of plush in the gray, and three samples of the same fabric in the finished state; also a sample of the pile yarn used in these cloths. You will note that the back of the gray goods is quite free of mohair, but the finished goods show an excessive amount of hair on the back. Sample No. 3 is more tightly woven than the others; yet we experience the same degree of hairiness in this cloth as in the others. This leads us to believe that regardless of how tightly the particular fabric is woven, it is impossible to avoid this condition. The goods are processed in the rope form in stainless-steel dye kettles, and we feel we are exercising every care possible not to handle these goods excessively. Both the boss dyer and the boss weaver feel that the weaving and dyeing are correct. This leaves but one thing to suspect—the yarn. However, we are open to any suggestion you can make, regarding either dyeing or weaving, which will clear up this condition. (8589)*

Your question does not state whether it is your practice to steam the mohair pile in these fabrics before they are dyed and finished. If not, this is probably the cause of your difficulty. All big plush mills in the upholstery field steam all fabrics having 100% mohair pile. This "sets" the pile, and keeps it from working out during dyeing and finishing operations.

## Loom Trouble on Pillow Tubing

*Technical Editor:*

*I am running a section of old belt-drive looms on pillow tubing, making 168 picks per min., and am having a lot of trouble with double picks, skips, knocking out filling, and thin places. I have the looms letting off all right, and they also change from both midget feeler and filling fork. Any advice you can give on this will be appreciated. (8640)*

Some possible causes of the trouble mentioned, as outlined in literature published by Draper Corp., are contained in the following:

The correct operation of the feeler, the hopper, and the self-threading shuttle (on Northrup feeler looms) are all largely dependent on the boxing of the shuttle. If the shuttle is going into the right-hand box too hard, the filling may be sloughed off the bobbin, or it may loop around the eye of the shuttle, or it may be thrown out of this eye. If the shuttle is allowed to go too far into the box, new bobbins will strike too far back on the shuttle-spring cover. Imperfections are often due to this cause, and sometimes it will result in a bobbin being broken or being left in the shed, causing a breakout. If the shuttle rebounds, the trouble mentioned is also likely to occur; as is the more serious trouble of striking the shuttle-feeler, with accompanying likelihood of cutting the yarn although the bobbin is not changed.

The shuttle may be boxing very nicely on the right-hand side, and the yarn cutter may be going forward properly, yet the bobbin may not be transferred the first time the feeler operates. This is sure to cause mispicks. Sometimes the yarn may be entirely run off the

bobbin, although the feeler operates each time the shuttle is on that side of the box. This is due to the fact that there is not quite enough power on the pick toward the hopper, the shuttle entering the box so late that as the lay swings forward the tip of the moving shuttle touches the end of the shuttle-feeler just enough to depress the latch and prevent the bobbin transfer. As the shuttle continues to move the shuttle-feeler will, an instant later, pass by the end of the shuttle, and the yarn will be cut unless prevented by the bunter.

Care should be taken that the shuttle is properly boxed at the feeler-end as well as the hopper-end of the loom, or the feeler may strike the shuttle instead of passing through the slot in it. Be careful, too, that the filling-feeler passes through the slots in the box plate and shuttle without touching. It is well to set the feeler as near the upper edge of the shuttle slot as possible, for the shuttle in running is likely to rise off the lay; if the feeler is set for the middle of the slot, it may strike the lower edge of the shuttle and be prevented from changing the bobbin.

In addition, we would suggest that double picks are frequently caused by the filling catching up again after being cut. If the trouble still remains, with the shuttle boxed correctly on both sides, the feeler set correctly, and the possibility of cut filling eliminated, it is possible it may be due to improperly operating filling forks, and these should be checked.

## Backsizing Axminster Rugs

*Technical Editor:*

*Kindly advise me of a good formula for backsizing Axminster rugs. (8625)*

The composition of a satisfactory Axminster backsize is dependent on the type of equipment used in applying it (which varies widely throughout the trade), the quality of Axminster to which it is to be applied, and the type of "handle" desired. However, it can be said that any finish desired can be produced by the combination of an unconverted starch; e.g., tapioca; with a converted starch which boils up thinner and thus enables more solids to be carried in a given fluid condition; with the addition of a softener to prevent undue cracking of the finished rug. Turkey Red oil is a satisfactory agent of the latter type.

In practice, use is made of the products of starch- or gum-producing firms, in the form of ready-mixed products made up after the manufacturers have seen the conditions applying; these are probably better and more uniform than mill mixings.

An "average" size might be about as follows: 40% tapioca starch of a good grade, 60% light tapioca dextrin, heated to 190° F. in water in proportion of 1:6 solids to water by weight. To this is added about one quart of 75% Turkey Red oil to 50 gal. of the mixture. This size is applied to the rug at a constant temperature somewhat below the 190° F. at which the mixture was made.

## Device for Inserting Leabands

*Technical Editor:*

*Do you recall ever having seen or heard of a device for inserting leabands in skeins? (8532)*

A consultant to whom we referred the above question replied: "I know of no device for lacing skeins mechanically, nor have I ever seen a satisfactory model. Have often heard of types that have been tried but none that would not damage the yarn or that was superior to hand lacing. Of course, combs are a great help, but they can hardly be called apparatus for inserting leabands."

## Knitting-Yarn Numbers

*Technical Editor:*

*We have a number of circular knitting machines with various cuts, ranging from 8 to 18, in both jersey and rib machines. Is there any way of ascertaining the correct yarn numbers to be used with different cuts of machines in both single and two-ply yarns of either cotton, woolen, or worsted? If 16/1 is satisfactory on an 18-cut jersey machine, what 2-ply yarn is equivalent to the 16/1s? How can I obtain a comparative table for cotton and woolen yarn numbers? (8688)*

The correct yarn numbers to be used with different cuts of machines are shown in the accompanying table, for both rib and plain machines. To find what 2-ply equals 16/1, just double the number; e.g., 16/1 is equivalent to 32/2.

## Calculating Twister Production

*Technical Editor:*

*Kindly advise me of a practical and short method for figuring production of a worsted twister, either dolly roll or horizontal roll. (8623)*

The following is a suggested method and formula for figuring production on worsted twisters of the types mentioned:

(Diam. of front roll or dolly × 3.1416 × r.p.m. of front roll or dolly × 60 × grn. per yd. of twisted yarn × number of spindles per frame) ÷ (36 × 7000) = production per hour at 100% efficiency.

By inserting figures applicable to your machines, production on a 100% basis can easily be calculated.

## Wool and Rayon Knit Fabric

*Technical Editor:*

*We are knitting two-ply wool and rayon yarn on Wildman 12-cut latch-needle circular rib machines. How can we knit the fabric in a way to throw the wool to the outside, as in the sample which we have inclosed? (8682)*

The yarn in the sample is approximately a 50-den. rayon and a 36s worsted twisted together with about five turns per inch. This combination is the equivalent of a 19s cotton yarn, which is slightly heavy for a 12-cut latch-needle rib machine. However, it could be run with oil or emulsion on the yarn. With a combination yarn of this kind, it is impossible to throw the worsted on the outside of the fabric.

To do so would require that the yarns be separate, and the yarn guide or carrier be equipped for plating. Carriers on Wildman rib machines usually are equipped for plating. Such carriers have a large hole near the center, for the face yarn, and a small hole in the lower corner, for the hidden yarn.

TABLE 1. YARN NUMBERS FOR KNITTING MACHINES

| Needles per in. | Rib Machine | | | Plain Machine | | |
|---|---|---|---|---|---|---|
| | Woolen | Worsted | Cotton | Woolen | Worsted | Cotton |
| 8 | 5.25 | 15 | 10 | 2.5 | 7.5 | 5 |
| 9 | 6.75 | 19.5 | 13 | 3 | 9 | 6 |
| 10 | 8.50 | 24 | 16 | 3.75 | 10.5 | 7 |
| 11 | .... | 30 | 20 | 4.25 | 12 | 8 |
| 12 | .... | 36 | 24 | 5.25 | 15 | 10 |
| 13 | .... | 42 | 28 | 6.25 | 18 | 12 |
| 14 | .... | 45 | 30 | 7.25 | 21 | 14 |
| 15 | .... | 50 | 33 | 8.50 | 24 | 16 |
| 16 | .... | 54 | 36 | .... | 30 | 20 |
| 17 | .... | 60 | 40 | .... | 33 | 22 |
| 18 | .... | .. | .... | .... | 37 | 25 |

# LOOMFIXERS' MANUAL

## RAYON AND SILK SECTION—Chapter IV (Continued)

By H. E. WENRICH

### Driving and Shipping

**AMONG THE MANY TYPES** of friction arrangements with which looms are equipped are friction levers extending around the rear of the loom drive. A lever rests along the back of the pulley and is controlled through a rod which can be shortened or lengthened by adjustment of two controlling nuts. On some types, the rod can be lifted completely out of the slot in the lever, allowing the rod to be adjusted quickly to the desired length.

The prong fitting over the swivel on this type of friction lever is in two pieces, permitting easy adjustment when the lever is removed for repairs. Care must be taken on this type, as well as on others, to make certain the lever, swivels, and other parts have full freedom of movement. Any part of the friction that is binding will lose its usefulness, slowing and retarding proper action of the loom.

Some loomfixers mistakenly drop powdered rosin between gears and friction plates when the leather friction-surface has become greasy. This practice causes damage to the shaft and to the gear bushing. Some of the fine particles of rosin sift between the gear and friction hubs, and work their way under the gear and on to the shaft. After a few weeks wear this will cut the parts.

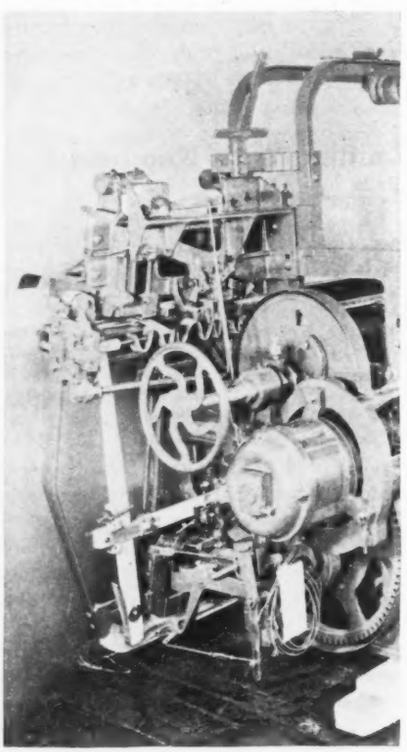
A better procedure is to remove the leather friction-plate, and wash it with gasoline or some similar material. After washing, Fuller's Earth can be rubbed thoroughly over the leather facing to remove the last traces of oil. The best method, of course, is to reface the plate.

Rosin will likewise cause trouble by freezing pulley- or motor-gears to their shafts. This may cause the loom to run and trap the shuttle in the shed, making a smash or banging off. When a gear is stuck in this manner, the motor overheats, and may burn out or blow a fuse. This same trouble may occur if oil drys or burns on a shaft, causing the shaft and gear hub to expand and thus become stuck.

When a gear is stuck from any one of the several causes that may turn up, the best method of freeing it is to loosen the oil setscrew at the top of the oil well or cup and pour in kerosene.

The kerosene will quickly dissolve foreign substances between gear and shaft, and allow the gear to be turned within a few minutes time. After the gear has been freed, run plenty of oil into the oil well, and run the motor for a minute or two before starting the loom.

**LOOM-DRIVE ADJUSTMENTS** are the next subject to be discussed. There are numerous types of belt and motor drives. Although many large, up-to-date, progressive mills are equipped with new, modern driving mechanisms, older types of drives are still quite prevalent, especially in the smaller units.



Careful adjustment of loom driving mechanisms is important to obtain best results

When motor stands are adjusted, they must be in perfect line with other parts on the drive end of the loom. If stands are placed on an angle, the brackets fitting over the crankshaft will bind as the bolts are being tightened. This wears the shaft, as well as forcing the drive- and motor-gears out of line.

After the stands are correctly adjusted, placing the motor in proper position to secure the maximum benefit of the pinion face is next considered. The pinion must be in line with the gear when the friction has been applied. If the pinion is incorrectly placed, so that it contacts only a part of the motor-gear face, efficiency is lost. The further out of correct position the pinion is, the quicker the motor-gear teeth will be worn down or broken off.

Gear wear will also be accelerated if motors are placed on their stands on an angle sidewise. In such a case, naturally, pinion teeth will mesh on an angle; should a small piece of dirt happen to drop into the mesh, the result would be a broken motor gear along one side at the edge of mesh. When a pinion is running in this position, a rasping noise is often heard, warning the loomfixer the pinion is not properly meshed.

If a pinion is meshed too tightly, it will soon be ruined, as will the motor gear. When a pinion is not meshed deeply enough, the motor-gear teeth will become chipped all the way around the gear, and will eventually break off. Here again, loomfixers should listen for the tell-tale sounds which result when pinions are meshed too deply or not deeply enough.

If the friction on a loom is correctly adjusted, and a chatter is heard when the loom stops, continuing on after the lay has been pulled to back- or top-center, it will be found that the motor pinion is battered considerably. Changing the pinion for a new one will often eliminate the chatter.

When motor gears are off balance, ten to thirty teeth in a row will be worn off to the rim. A new gear should be placed on the shaft when the gear teeth have worn down to the point where the gear starts causing trouble. Some foremen instruct loomfixers to mesh pinions deeper, so they will fit tightly against the rim, in order to wear every portion of the teeth off before changing the gear. This is false economy, as the noise set up by the tight mesh causes nearby weavers to lose production. In addition, such a practice can quickly result in ruining the motor pinion; thus a new

pinion as well as a new gear will be required.

When removing pinions from motors, loomfixers frequently use a short, stubby cold chisel, driving the chisel down between the pinion and motor housing. If a pinion is stuck, the shaft may be bent in removing the pinion, causing the teeth of replacement pinions to be out of line. A better chisel for removing motor pinions can readily be made by a blacksmith. It has a forked prong which fits down on each side of the pinion, allowing equal pressure to be applied on each side.

Loom motors should be oiled regularly, according to the directions of their manufacturers.

# COTTON SECTION—Chapter VII (Continued)

By IVAR MOBERG

## Warp Stop-Motions

**SETTING THE KNOCK-OFF** used in connection with sliding-bar warp stop-motions on looms with tight- and loose-pulley drives differs somewhat from the knock-off setting used on looms with a friction pulley, whether they are motor- or belt-driven. The tight and loose pulley knock-off motion (which was illustrated in Fig. C63, November issue) knocks off the loom at front center and compensates for the slower stop resulting from the fact that the belt must move from tight to loose pulley. The stop-motion itself is set identically with that for back-center knock-off motions. Instructions for setting the knock-off on looms with tight- and loose-pulley drives follow:

Insert the front bushing of the flexible rod into the knock-off sleeve and push it through until the plunger has raised the knock-off to within $\frac{3}{16}$ in. of the under side of the knock-off bunter, with the lay at front center. Tighten the set-screw so it will hold the bushing in this position. The shipper handle must be in "on" position during this adjustment.

Knock the shipper handle off and engage the knock-off with the bunter on front center. Advance or retard the bunter until the knock-off lever just pushes the shipper handle from the catch in the shipper-block casting.

There should now be a clearance between the bunter when it is at extreme front center, and the raised knock-off. With a shuttle in the right-hand box and the lay at extreme front center, set the oscillating cam at the center of its motion so the guide notch lines up with the cam-follower guide. The loom should now be started and a drop wire made to drop on to the feeler bars, in both of the directions in which they move. If the stop-motion is properly adjusted, it will stop the loom with the drop wire still held tight between the teeth of the feeler-bars and the holder, and with the shuttle in the left-hand box. An efficiently working brake is necessary to stop the loom in this position.

[Draper Corporation points out that on stop motions of this type applied to old looms without new brakes, this setting may be hard to get; but that on looms having cork inserts for the brake there should be no trouble. The brake is adjusted by means of the brake-lever spring and the brake-lever-spring bracket. Moving the bracket downward or upward causes the loom to be stopped earlier or later, as may be required for proper operation.]

**THE REGAN WARP STOP-MOTION** is a mechanical motion. It is usually built as a complete unit, independent of other moving loom parts. Therefore, it can be timed at any point of the loom so that it will stop the loom in any desired position.

The principle upon which the Regan motion operates consists of negatively moving oscillator rods which rock back and forth over approximately 45° of a circle. The oscillator rods are round, with the exception of two flat surfaces diametrically opposite. The oscillator-rod slots in the drop wires are bottle shaped. Thus the oscillator rod can move freely in the lower portion of the slot, but, when an end breaks and the drop wire falls, the smaller upper portion of the slot arrests the movement of the oscillator rod. This causes the loom to be knocked off.

Fig. C64 is a diagrammatic view of the Regan motion. At the left is shown an open-type drop wire, while the other three shown are of the closed type.

In operation, the oscillating rods move from the vertical position shown, to one side, and then back again. The setting of this warp stop-motion consists of the following steps.

Line up and adjust the driving and plain heads, so that they are level, plumb, parallel, and spaced apart so that the frame bars and oscillator rods will just go in between them, without binding.

Place all the frame bars in the supporting brackets and adjust the height of the motion so that the top of the frame bars will be level with the top of the whiproll. Do not set the stop-motion lower than the whiproll, as this would cause the drop wires to jump up against the oscillating bars when the loom is running. Such a condition might result in the looms stopping without cause.

Adjust the movement of the driving rod, Fig. C65, by moving the driving-rod stud in the cam follower until the rod moves up and down $1\frac{3}{4}$ to 2 in. when the oscillator cam is turned

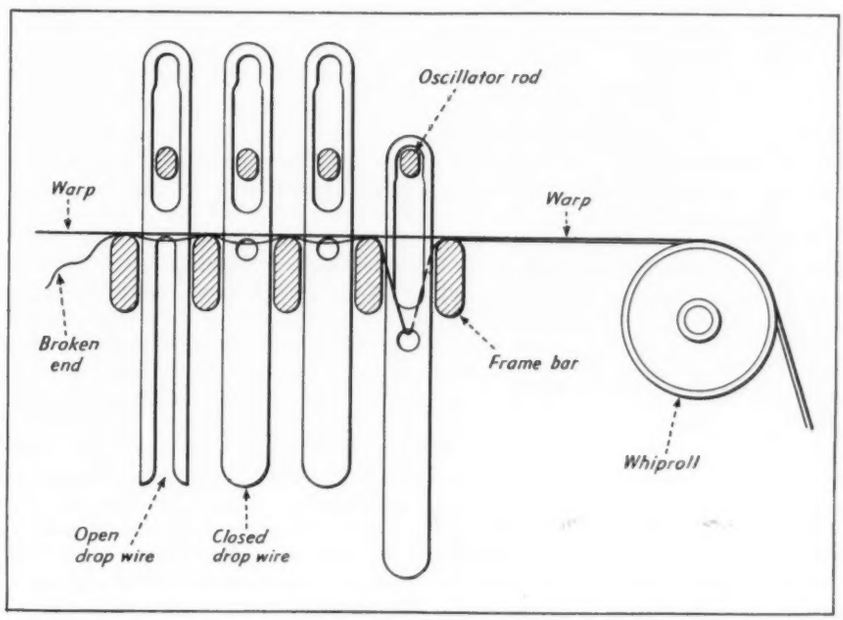



Fig. C64. Diagrammatic view of Regan warp stop-motion

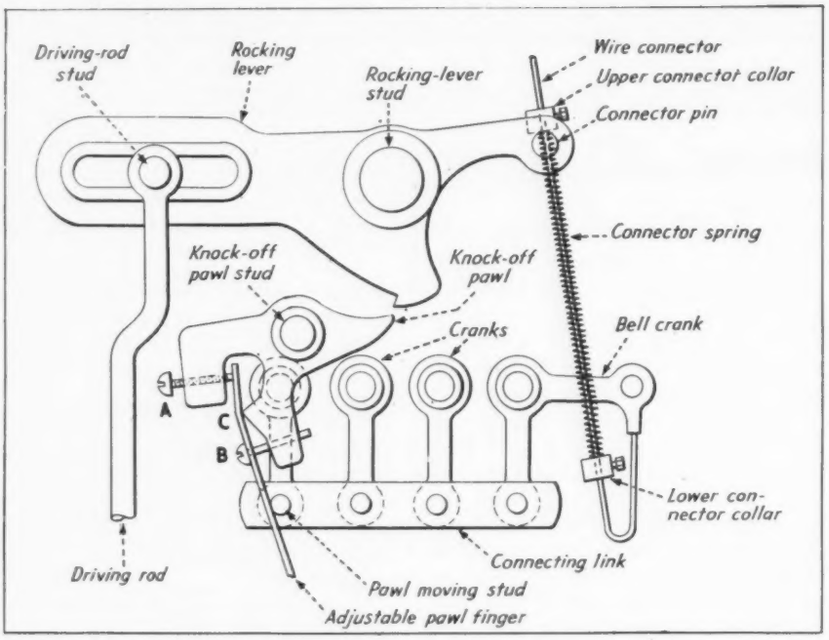



Fig. C65. Parts to be adjusted when setting Regan stop-motion

around on the camshaft. This adjustment is best made with the upper end of the driving rod removed from the stud in the rocking lever.

With the driving-rod stud in the center of the slot, turn the oscillator cam until the cam follower rests on the cam's highest point. Adjust the length of the driving-rod until it will bring the rocking lever to within $\frac{3}{8}$ in. of its top-position stop. Turn the oscillator cam one-half revolution so that the cam follower rests on the lowest point of the cam and make sure the driving rod brings the rocking lever to within $\frac{3}{8}$ in. of the down-position stop. If necessary, readjust the movement of the rocking lever, by moving the stud in the cam follower or the stud in the rocking lever, until the rocking lever moves between the two points given.

Turn the oscillator cam so that the cam follower rests on the lowest point. Adjust the length of the wire connector by moving the upper connector collar up or down until the flat sides of the oscillator rods are vertical. Guard against having the rods in any other position, as this will not permit a falling drop wire to get seated over the oscillator rod while it is momentarily at repose at dead-center of the cam. Instead, in such an instance, the drop wire must seat itself on the oscillator rod as this passes the vertical position during its movement. If the adjacent drop wires interfere with a quick drop, the falling wire may not have time to get properly seated and the knock-off of the loom may be delayed for several picks.

Throw the shipper handle into "on" position and adjust the length of the knock-off rod, so that it will hold the knock-off arm lightly against the stop.

Compress temporarily the connector spring by moving the lower connector collar up on the wire connector. Adjust the pawl finger by turning, in opposition, the adjusting screws *A* and *B*, Fig. C65, until, when the rocking lever is moved up and down by hand, there is a clearance of not more than $\frac{1}{16}$ in. between the knock-off pawl and the projection on the lower end of the rocking lever.

Some loomfixers become confused in adjusting knock-off fingers and it may be appropriate here to explain the turning of the adjusting screws. Suppose the clearance between the knock-off points is too great, which may cause a failure of the stop-motion to knock off the loom. To reduce this clearance, loosen screw *B* a fraction of a turn at a time and tighten screw *A* a like amount. This changes the relative position of the knock-off-pawl finger and the pawl itself, as the finger swings around the fulcrum *C*. Since gravity always forces the pawl finger against the pawl-moving stud, the clearance between the two knock-off points is reduced. To increase the clearance between the knock-off point, loosen screw *A* and tighten screw *B*.

Adjustment of the tension of the connector spring is very important and is best made when the loom is running normally. If the tension of the spring is excessive, the drop wires will not be able to arrest the movement of the oscillator rod and the loom will not be knocked off when warp yarns break. If the tension of the spring is insufficient, the loom will be knocked off without any yarn break. The final adjustment of this spring should be made while the loom is operating on regular production. Adjust the tension of the spring until it will just keep the upper connector collar in contact with the connector pin at all times while the loom is running.

Set the oscillator cam on the camshaft so that the loom will stop in the desired position. Make certain all the oscillator rods move freely when all intermediate supports and normal warp tension are applied. Otherwise, the loom will knock off without end breakage.

**ELECTRICAL** warp stop-motions operate on the principle of a falling drop wire closing an electric circuit which, in turn, acts upon an electro-magnet or solenoid to position a bunter in the path of a moving object and subsequently knock off the loom. Since there are no moving parts in the stop-motion itself, it is quickly raised or lowered to suit the requirement of any particular fabric.

Modern electrical warp stop-motions have eliminated the disadvantages of some older electrical types, in which the drop wire sometimes jumped out of contact with the electrodes and dropped the knock-off just as the bunter was approaching the knock-off to stop the loom. The stopping of the loom was therefore delayed for one or more picks, or until such time as the drop wire was in contact with the electrodes just as the bunter struck the knock-off. There was also at times a tendency for lint to collect on top of the electrodes, making electrical contact of the drop wires uncertain. Further, since the motions operated in large groups from one transformer, if anything happened to a transformer all the stop motions in that group were rendered inactive.

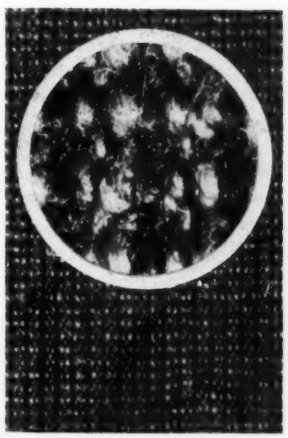
Modern electrical warp stop-motions operate on low-voltage a-c. or d-c. current supplied individually, either from 12-volt taps on the loom motors, or by units on the motor switches.

No setting or timing is necessary after the stop-motion has once been installed. The motion can be moved to any suitable position, without the necessity of other adjustments. Also, with stop-motions of this type, the cam can be timed independently of other motions, so that the loom will stop at any desired position.

# STAPLE COTTON FABRICS

By JOHN HOYE
Fabric Technician with W. Harris Thurston, New York

This forty-eighth installment of Mr. Hoye's series of articles on staple cotton fabrics — which began in the January, 1936, issue — completes the discussion of upholstery fabrics.



Frieze, 54 in., 56x16, 0.98 yd.

## Upholstery Fabrics

FRIEZE is a cotton fabric which simulates the worsted or mohair pile fabric of the same name. It is a mottled, wiry-textured flat fabric with a pronounced rep or rib effect across the width. This rib effect is obtained by using a high warp count and a lower filling count of coarser yarn; the warp ends usually are woven with one end under regular tension and one end under slack tension, alternately across the fabric. To obtain the characteristic wiriness, 2-ply warp yarns usually are employed for the slack tension yarns and, in some cases, for the regular tension yarns also. To give a still firmer texture, the ply yarns may have a Z-Z twist or twist on twist. Since the direction of the twist in the ply is the same as that in the singles yarn, a harder yarn is produced.

To produce the mottled effect the 2-ply warp yarns are of contrasting shades of a color, such as a light blue and a dark blue yarn. The filling usually is a dark-colored heavy single yarn. The warp yarns woven under regular tension usually are of solid colors of rust, brown, navy, etc. Sometimes black tension yarns are used, for better contrast.

*Warp yarns:* 10/2 to 16/2 cotton. *Filling yarns* : 5s to 10s cotton.

*Examples of frieze:*
54 in. 54 x 18 0.92 yd.
54 in. 56 x 56 0.98 yd.

FRIEZETTE usually is a lighter weight fabric which has the same ribbed appearance but not so wiry a texture as frieze. It generally is a converted fabric, piece-dyed in solid colors. The rep effect is obtained by weaving alternately, one end (ply or single) under regular tension and one end (single) under slack tension. The filling is woven 2 picks in a shed alternating with 1 pick in a shed.

*Warp yarns:* 6s to 12s singles, and 12/2 to 16/2 ply. *Filling yarns:* 5s to 10s.

*Examples of friezette:*
54 in. 52 x 28 1.04 yd.—finished 52 in.
56 in. 52 x 36 0.95 yd.—finished 52 in.

Friezette, 54 in., 48x34, 0.90 yd.

JACQUARD upholstery denim comprises a large group of upholstery fabrics made with one warp and one or more fillings in jacquard-woven designs. They usually are made with heavy, coarse yarns, either single, ply, or spiral, in the warp. For the filling, seed or spiral yarns are used. Also, two different-colored filling yarns are used. Most of these fabrics are woven with a low filling count. However, better qualities are made with finer cotton yarns of higher count. Again, other jacquard upholstery denims are made with a rayon warp and two or three different-colored cotton filling yarns.

Jacquard upholstery denim, 56 in., 96x32, 0.98 yd.

*Warp yarns:* 12s to 16s singles, and 15/2 to 30/2 ply. *Filling yarns:* 4s to 8s singles, 5/2 to 12/2 ply, and 1680 to 3360 yd. per lb. spiral yarn.

*Examples of jacquard denim:*
56 in. 70 x 25 0.78 yd.—ply-yarn warp and spiral-yarn filling.
56 in. 96 x 32 0.78 yd.—ply-yarn warp and filling.

DOBBY-WOVEN upholstery denim, which is the last in this group, was discussed in the October, 1938, issue.

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This discussion of upholstery fabrics will be followed in the next instalment by a discussion of the construction of table-cover and napkin fabrics. The entire series will be completed within about six months, after which it will be published in book form. The interest already shown in the series indicates that the book will find wide application among retailers, wholesalers, converters, and manufacturers, as well as textile schools and home-economics schools.—*Editor.*

# NEWS OF THE MONTH

## Cotton Subsidy Cut

Some exporting cotton mill men felt, when Henry Wallace fired his double-barreled cut on the cotton and cotton goods subsidy, that the government had taken perfunctory liberties with their profits. The first reduction was from $1.50 a hundred to 75¢; the second cut, next day, was from 75¢ to 40¢—with the warning that depleted funds and increasing export might bring termination of the program.

Department of Agriculture officials discussed the move seriously for days. They were between the devil, representing disastrous market dislocations if they gave long notice, and a deep sea of losses to mills which had orders based on the 1½c rate. They studied the original announcement. It warned that the subsidy might be discontinued or the rate revised—downward. That looked like fair notice.

So the Department crossed the Rubicon—toward its objective: to make the available subsidy money move the greatest volume of cotton. Agriculture doesn't try to conceal its joy over success in selling and delivering, under the program, to Dec. 4, 4,344,354 bales, which is 982,000 more than total expert for entire last crop year. In addition, sales and deliveries of cotton products equivalent to 226,000 bales were made.

## Textile Wage Increases

Wage increases averaging approximately 7% have been put into effect by a number of mills, both cotton and wool mills, in New England. In some cases the increase was less and in others more than 7%.

An attempt on the part of the Textile Workers Union of America to bring about restoration of the 12½% wage cut made a year ago by the American Woolen Co. was rejected by the company Dec. 2. However negotiations continued between the company and the union, with the possibility of a compromise in view.

Some of the mills in Canada have increased wages approximately 10%.

## ICC Might Cut Freights

Action of the Interstate Commerce Commission in ruling that higher rates should not be maintained in the South than are maintained in the North on like commodities that are not moving freely, means that individual products must make a case for themselves. The decision covers only a few commodities. No textiles were in the list. The ruling, however, constitutes an invitation to all southern products to apply for lower rates. It is apparent, however, the Commission will require convincing evidence that the product would move more freely to the North were the rate reduced.

## Public Relations Honor Roll

Among the outstanding public-relations jobs noted in the textile industry recently, are the following:

Holeproof Hosiery Co., Milwaukee, Wis., having carried on a thorough-going modernization program, held open house to which it invited relatives of the workers, as well as the general public. Attendance was 2,300. The plant inspection was concluded with a banquet in the evening.

The Newberry (S. C.) Chamber of Commerce recently sponsored a plan to build up a greater interest on the part of the community in the textile mills located there. Three days were set aside for inspection of the three plants—Mollohon Mfg. Co., Newberry Cotton Mills, and Oakland Cotton Mills.

Lily Mills Co., Shelby, N. C., gave a preview of a sound picture showing the various stages through which Sea Island cotton goes in the making of the company's thread. It is an educational film, 30 reproductions of which will be used for showing before home-economics classes and in moving picture theaters in the territory in which the company distributes its sewing thread. Most of the scenes were made at the plant in Shelby.

Officials and employees of the Artistic Weaving Co., Pompton Lakes, N. J., celebrated 50 years of successful operation with a dinner, dance and entertainment on Dec. 9.

Bankers, manufacturers and merchants met at the Hotel Jamestown, Jamestown, N. Y., recently and listened to an exposition of the part textile industry has played in Jamestown.

## G. W. Swallow Heads Woolen Overseers

The annual meeting of the National Association of Woolen & Worsted Overseers was held Nov. 11 at the Hotel Manger, Boston, Mass.

George W. Swallow, of Globe Mills of American Woolen Co., Utica, N. Y., was elected president, succeeding Bernard J. O'Reilly, Fred W. Graichen of Puritan Mills of American Woolen Co., Plymouth, Mass., was elected first vice-president; John J. Lyons, of Lymansville, R. I., was elected second vice-president and Edward Wolfendale of Arlington Mills, Lawrence, Mass., was

New officers of National Association of Woolen & Worsted Overseers: (left to right) J. J. Lyons, Fred Graichen, J. J. Burns, Geo. Swallow, C. L. Cutler, Edward Wolfendale

elected third vice-president. Clarence W. Cutler, of Atlantic Mills, Stottville, N. Y., was elected treasurer, and James J. Burns, of Holyoke, Mass., secretary. The attendance at this convention registered over 400.

## Apex Suit Gets Set-Back

Apex Hosiery Co., Philadelphia, will appeal to the Supreme Court the decision handed down on Nov. 29 by the U. S. Circuit Court of Appeals, annulling the $711,932 triple damage judgment obtained by the company April 3 against Branch 1 of the American Federation of Hosiery Workers and its president, William Leader, in the Federal District Court. The annulment was based on the conclusion of the three appeals judges that the seven-week sitdown strike in the Apex plant did not constitute a restraint of trade as meant by the Sherman and Clayton anti-trust laws. The court sternly denounced the conduct of the strikers and declared the company probably could have collected heavy damages had it filed its suit in the State Court.

The decision is hailed as a labor-union victory since, if the judgment had been upheld, it would open all labor unions to similar suits and judgments where similar circumstances exist.

TEXTILE MILL SIDELIGHTS—No. 12

"I don't give a hoot if you two are getting married after work — Ya' can't work in those outfits!"

## New Stimulus to Style Creation

There has been growing attention to style creation in the New York market since the war broke out. This may be due to a feeling that Europe cannot during the present emergency supply fashions which are in harmony with the American tempo.

One of the largest of the fashion shows was that held on Nov. 29 by the New York Designers Exchange. The models were sold to manufacturer members of the Exchange.

Earlier in the month an exhibit of 100 sketches of modern fashions designed by Ladislas Zcetell was held at the New School for Social Research.

On Nov. 16 there was held at Gotham Hotel, New York, the "first American show for woolens and worsteds."

## Try to Get Australian Wool

A joint committee of the National Association of Wool Manufacturers and the Boston Wool Trade Association has been in conference with officials of the British Embassy in an effort to work out a plan whereby certain quantities of Australian wool, now owned by the British Government under a war-time enactment, might be released for American use. It is understood the British authorities do not favor the distribution of allocated wools by auction in Australia, nor does it seem desirable to ship the wool to Boston and hold auctions after arrival. An intermediate plan may find favor whereby a description of the wool will be cabled from Australia and the wool sold at periodic auctions in Boston, subject to the reserve price of British authorities.

Cables from London have indicated a 10,000,000 lb. release of Australian wool finer than 59s for American use on application to the Central Wool Committee at Melbourne. Arthur Besse, president of NAWM, characterized the action as meaningless, since the amount was insignificant, no price or payment method was given, no delivery time mentioned, and the Committee at Melbourne has remained mute.

## Will Be 75 Years Old

The 75th anniversary of the founding of the National Association of Wool Manufacturers occurs next February. There is sentiment in the trade to take advantage of that event to review the achievements of this patriarch among associations.

## "Gone With the Wind" Promotions

Brian Fabrics, New York, is introducing a series of "Gone With the Wind" prints in Crown-Tested rayon fabrics. The prints are, of course, reminiscent of the Civil War era and comprise plaids, floral designs, stripes and lacey over-effects. The actual designs were created in Paris for fashions used in the motion picture. The world premiere of the picture is expected to take place in Atlanta, Ga., about Dec. 15.

Another commercial tie-up with this movie is that of the National Sure-Fit Quilting Co., which is launching a series of quilts designed in keeping with the period of the story. The first quilt of the series will be called "Scarlett" after the heroine of the book.

## New England Council Re-elects C. F. Weed

The directors of the New England Council re-elected C. F. Weed, a Boston banker, as president, at a meeting preceding the annual two-day conference last month. Charles S. Pierce, a banker of Milton, Mass., was named

Gates Seat Covers are now being merchandised in a new display package manufactured by Hinde & Dauch Paper Co., Sandusky, Ohio. As illustrated, the package has been opened to form a display unit, the top of the box becoming a display card.

vice-president; Fred A. Sullivan, and Dudley Harmon were re-elected secretary and executive vice-president, respectively.

Objectives outlined as a New England program for 1940 included: Governmental economy; promotion of research; improved training of young people for useful occupations; promotion of New England's advantages; and uniformity of State laws to facilitate a freer flow of commerce throughout the area.

## Hosiery Conference on Jan. 17 and 18

The fourth annual hosiery industry conference is scheduled for Jan. 17 and 18 at the Waldorf-Astoria Hotel, New York. Speakers will present pertinent facts about the world situation, domestic business conditions and legislative matters which bear upon the hosiery future.

The 1940 Knitting Arts Exhibition will take place as usual in Philadelphia from April 15 to 18. The Exhibition will be open only four days instead of five as heretofore, closing at 10 p.m. Thursday. The National Association of Hosiery Manufacturers and the Underwear Institute will hold their annual meetings at the Commercial Museum that week.

## To Study Sources of Business Information

A course of Business Information Sources is to be held at the University of Newark during the second semester, under the auspices of Dean Esterly of the School of Business Administration of the University. The course is planned to introduce the students to directories, trade association proceedings, services, the business press, Government documents, and other classes of publications that serve in solving the problems in business and professional fields. Miss Marian C. Manley, business branch librarian of the Newark Public Library, will be the instructor for the course, which will be given Tuesday evenings. Information may be obtained from the Registrar of the University.

## Soon We'll Have "Nylon Day"

Actual introduction of Nylon hosiery to the consumer in the United States will be effected with a considerable amount of formality at a date still to be set. It is understood that this hosiery will go on sale simultaneously in stores from coast to coast.

Although various months are mentioned in market conversations, the best opinion seems to be that "Nylon Day" will probably be set for early April. The yarn plant itself at Seaford, Del. will begin production Dec. 15, but not reach capacity for several months.

## S. E. C. Textile Data

The Securities and Exchanges Commission has prepared six reports containing a summary of selected data on the following six groups in the textile industry composed of corporations registered under the Securities Exchange Act: Manufacturers of textiles, cotton-wool; manufacturers of rayon yarn; manufacturers of silk and rayon textiles not producing yarn; hosiery manufacturers; manufacturers of apparel other than hosiery and footwear; and miscellaneous textile manufacturers. These reports provide individual data for each of the companies included, and also combined data for all companies in each of the groups compiled from reports which have been secured from the registrants for the year 1934–1937. The summaries are open to public inspection at the main office of the S. E. C. in Washington or at any of its regional offices.

## Philadelphia's Cooperatives in the Headlines

Philadelphia's cooperative hosiery mills made news copy last month. On the one hand there was the successful launching of the Hancock Hosiery Mills, formerly the Westmoreland unit of the Interstate Hosiery Co. The 550 employees are now owners of the business, although their prerogatives are delegated to duly elected officers. John Smith is president, Lewis Hess, secretary, and William Athel, treasurer. John E. Phipps of 385 Fifth Ave., New York is the selling agent.

On the less constructive side of the picture are to be found the suits and countersuits arising from the activities of Colonymaid Hosiery, Inc. The Rev. David Colony, who was active in organizing this cooperative venture, resigned the presidency of the company early in November because of a dispute growing out of non-delivery against an order on which the silk costs were higher than originally figured. W. M. Leader, president of Branch No. 1, American Federation of Hosiery Workers, and fourteen other officers and members of the Union brought suit against the Rev. Colony to collect damages for alleged slander based on assertions said to have been made by him. A few days later the Rev. Colony brought suit against Mr. Leader for damages for alleged libel.

## Egyptians Up and Domestic Staple Scarce

American cotton manufacturers who use Egyptian cotton have noted a stiff advance in prices of the imported staple since early November. This is due particularly to war needs. The best grades of Sakel, Egyptian cotton with the highest breaking strength (with the exception of Giza 26), has been in especially strong demand. It is understood that the British Government has offered to buy from the Egyptian Government 250,000 bales at prices of the close of the market, Nov. 11. This was about 1¢ above the price at which the Egyptian Government is willing to receive unlimited quantities of cotton: November Sakel 13.07; November Giza 12.22; December Uppers 10.37.

Cotton spinners who use 1 3/32-in. domestic staple are finding an acute shortage existing in that length. It is

### TEXTILE CALENDAR

National Council of Textile Industries, dinner meeting, Waldorf-Astoria, New York, Jan. 5, 1940.

Hosiery Industry Conference, fourth annual meeting under auspices of four associations, Waldorf-Astoria Hotel, New York, Jan. 17 and 18, 1940.

Sixth International Heating and Ventilating Exposition, Lakeside Hall, Cleveland, Ohio, Jan. 22 to 26, 1940.

Phi Psi Fraternity, 37th Annual Convention, Bellvue-Stratford Hotel, Philadelphia, April 11-12-13.

Knitting Arts Exposition, 36th annual exhibit, Commercial Museum, Philadelphia, Apr. 15 to 18, 1940.

**First Prize Window Display**—Out of an unusually large number of entries in the window display contest held as a feature of the sixth annual Silk Parade last September, the above window reproducing the theme of the Silk Parade poster was awarded first prize. The window is in the store of Stix, Baer & Fuller Co., St. Louis. There were ten other awards for window displays and three awards for silk displays inside the store.

understood that in the Delta only 2.8% seed acreage was planted in that length compared to 5.4% last year, and of the length between 1$\frac{3}{32}$ and 1$\frac{7}{16}$-in. only 0.835% was planted compared to 5.0% last year, giving a total acreage this year of 3.6% in cotton from 1$\frac{3}{32}$ up to and including 1$\frac{7}{16}$ compared to 10.4% in 1938. Spinners are having to make adjustments in the staple length requirements and some are having to consider going on California growths.

## A Sock Novelty

Heelless socks for men have been making an impression on the Pacific Coast and Middle West. These socks are in effect merely knitted bags into which the foot is introduced and the matter of shaping and fitting left to the elasticity of the fabric. There is therefore no size in the usual sense to this hosiery. A talking point in connection with their long wear is the fact that the same points are not exposed twice in succession and the heel may come at any particular part in the circumference of the sock. The socks are made on hand frames, of wool, and sell at $1.65.

## Discontinuous-Filament Yarn by New Process

A new method of producing discontinuous-filament yarns has been patented recently in England, by Harold Ashton and W. Hardacre, both of Courtaulds Ltd. In this process continuous-filament yarn—of the viscose type, for example—is twisted with a yarn made from relatively short fibers, say 5-in. wool fibers, and the plied yarn is then passed through drafting rolls so spaced and weighted as to break the continuous filaments of rayon and draft them with the individual wool fibers. The drafting rollers may be those contained in a gill box without fallers, a draw box, a roving frame, or a spinning frame.

## Narrow Fabric Rules

Weavers of narrow non-elastic fabrics have formed an organization to eliminate certain trade abuses which have come into the merchandising of their products. The group is associated with the Cotton-Textile Institute, and J. E. Fite, of Krout & Fite, Philadelphia, has been elected chairman. Rules of practice have been adopted.

## This and That

The editorial introduction which led off the reprint, in the October TEXTILE WORLD, of the article by Col. Millard D. Brown from an issue of "*Making the Grade with Wool*" published by Eavenson & Levering Co., was carried in a later issue of that publication.

Distribution of 3,000,000 cotton bath towels as premiums through approximately 30,000 retail grocery stores in 13 States has been planned, according to announcement made by the National Cotton Council at Memphis, Tenn. It is stated that plans are in prospect for premium projects involving sheets, pillow cases, and other cotton articles.

National Cotton Council, Oscar Johnston, president, has announced five major committees and their chairmen as follows: Everett Cook, Memphis, Tenn., committee on scientific research; Norris C. Williamson, of Lake Providence, La., committee on domestic consumption; C. A. Bertel, New Orleans, La., committee on foreign trade; Harold A. Young, Little Rock, Ark., committee on cotton production efficiency; C. D. Patterson, Decatur, Ala., committee on marketing efficiency.

Textile Salesmen's Association, New York, held its annual meeting and dinner on Dec. 5 at Midston House. The event took the form of a testimonial to H. W. Smith, who has been secretary of the organization for the last 24 years, and to Tom W. Jardine, who has served as chairman of the Relief Committee since its inception in 1917.

"Principles of Automatic Winding" was the topic discussed by Hans J. Theiler, representative of the Swiss (Schweiter) Winders, at a meeting of American Association of Textile Technologists Dec. 6, in New York. Dr. E. W. K. Schwarz, textile chemist, was the second speaker; he discussed "Important Chemical Developments in the Textile Industry."

Casein fibers are destroyed by certain types of bacteria according to a report made by two Dutch scientists. The casein-splitting micro-organisms liberate a chemical which attacks the fiber. Heating fibers infected with the bacteria to about 212° F. stops the action of the organisms.

At a meeting of the Textile Division of the A.S.M.E., held Nov. 21, in New York, C. N. Johnson, of Crocker Wheeler Electric Co., spoke on "Latest Developments in Drives for Textile Machines." W. B. Heinz, of Calco Chemical Division, American Cyanamid Co., delivered a paper on "Performance and Characteristics of Dye Jigs."

Permalon, the new synthetic cordage fiber described briefly in our October issue, has a tensile strength of 30,000 to 40,000 lb. per sq. in. according to the producer, Pierce Plastics, Inc.

New developments in textile fibers, fabrics, and finishes were described by Dr. Kenneth H. Barnard, chief chemist, Pacific Mills, at a meeting of the North Jersey Section of the American Chemical Society, held last month in Newark, N. J.

Rayon staple fiber is being produced in Germany from potato leaves and stems, it is stated in a report from the American Consulate, in Leipzig.

The Cotton Carnival March, recently composed by a young Mississippian—Landis Rogers, bandmaster at Crystal Springs (Miss.) Consolidated High School—will be played by 5,000 bandsmen in the parade at the Memphis Cotton Carnival next May.

H. H. Hopson, Hopson Planting Co., Clarksdale, Miss., delivered the feature address at the fall meeting of the American Society of Agricultural Engineers, Chicago, Dec. 4 to 7. The subject of his talk was "Mechanization of a Southern Plantation." The Hopson plantation has been the scene of experimentations in connection with the International Harvester cotton picker for the last several years.

Garner H. Tullis will have a third term as president of the New Orleans Cotton Exchange. John N. Stewart has been nominated for vice-president, and C. C. Hightower for treasurer.

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# NEWS ABOUT MEN

**Thomas J. Wallner,** Pulaski, Va., head of the Wallner interests, has announced his resignation from the offices of president and treasurer of the recently organized Burlington Hosiery Associates, Inc., as well as all other offices held in the various separate corporate units, effective Jan. 1. He stated that with the expansion of the Wallner Silk Hosiery Mills, Pulaski, where 26 new full-fashioned machines are being installed, and other expansion programs contemplated, it will be necessary for him to devote his entire time to his own corporations.

**M. L. Smith,** lately treasurer, has been elected president of Laurens (S. C.) Cotton Mills. **G. G. Milliken** is vice-president; **Charles D. Green,** treasurer; **C. M. Burgess,** secretary and assistant treasurer. **J. E. Smith** has been made superintendent.

**J. T. Phillips,** president of Buck Creek Cotton Mills, Siluria, Ala., for two years, and who has been with the company for 13 years, has purchased the controlling interest of the Thompson family in the mills.

**Ellison A. Smyth,** dean of the Southern textile industry and chairman of the board of Balfour (N. C.) Cotton Mills, celebrated his 92nd birthday on Oct. 26. The day was marked by the birth of his twenty - first great - grandchild. The child was Julianne Hudgens, daughter of Mr. and Mrs. Thomas Hudgens of Hendersonville, N. C.

**W. A. Longshore** of I. Reifsnyder & Sons, Philadelphia, has been reelected president of the Philadelphia Wool & Textile Association.

**C. A. Cannon,** president of Cannon Mills Co., Kannapolis, N. C., will be host in January to all employees who have been connected with the organization for 25 or more years.

**W. C. Vereen,** president of the Moultrie (Ga.) Cotton Mills, banker, philanthropist and church leader, in appreciation of his long and faithful services as a ruling elder of the church, was presented with a loving cup recently by the congregation of the First Presbyterian Church of Moultrie. He is 80 years old.

**A. G. Odell,** assistant secretary and manager of Kerr Bleaching & Finishing Works, Concord, N. C., has been named chairman of the Alumni Council of Duke University.

**Elmer F. Andrews,** former Wage-Hour Administrator, has joined Dun & Bradstreet, New York, to undertake some special work for that firm. This was made known by **Arthur D. Whiteside,** president of the company, during the course of a recent address.

**D. C. Woods,** vice-president and treasurer of Rollins Hosiery Mills, Des Moines, Iowa, has been elected president of the company, succeeding **John H. Brine,** who, as reported last month, has become executive vice-president of Oscar Heineman Corp., Chicago. **M. F. Reeder,** secretary of Rollins, has been given the added duties of treasurer.

**Henry T. Bibbo** has been appointed New York sales agent of the Grosvenor-Dale Co., No. Grosvenor Dale, Conn., succeeding **Howard E. Bishop** who, as reported last month, took over duties connected with the New England Industries, Inc., on Dec. 1.

**Sir Kenneth Lee,** head of Tootal, Broadhurst, Lee, Ltd., Manchester, England, textile manufacturers, has been appointed director-general of the Ministry of Information. He is at present director of British Radio Relations. **Sir Percy Ashley** is chairman of the British Cotton Board and has been appointed by the Ministry of Supply as Cotton Controller.

**Louis K. Wise** has become vice-president in charge of sales of the Sunbury Finishing Co., with offices in New York. Mr. Wise has been connected with dyeing and finishing for the last 25 years, most recently with the Jersey Dyeing Corp.

**Andrew C. Adams** has resigned his position with the Soule Mill, New Bedford, Mass., to join W. R. Grace & Co., New York, where he will handle textile equipment for use in this country and abroad.

**John F. Tinsley,** president of Crompton & Knowles Loom Works, Worcester, Mass., has been appointed by Governor Saltonstall of Massachusetts to a committee of five to act as a coordinating group to speed return of employment in private industry. **William M. Rand,** head of Merrimac Chemical Co., is chairman of the group.

R. E. Henry, new Victor-Monaghan president

**R. E. Henry** was elected president, treasurer and director of Victor-Monaghan Co., Greenville, S. C., Dec. 5. **R. G. Emery,** vice-president and general manager of Dunean Mills, was named vice-president of Victor-Monaghan. Both took office immediately. Mr. Henry, past-president of American Cotton Manufacturers Association, is also president of Dunean, Watts, and Aragon-Baldwin. Since the death of Mr. Marchant, the affairs of the mill have been handled by a special committee composed of **S. M. Beattie,** chairman, **R. T. Stevens,** and **Alester G. Furman.** Victor-Monaghan operates plants at Greenville, Walhalla and three at Greer.

**John J. Lowe,** superintendent of General Ribbon Mills, Inc., Catasaqua, Pa., has been elected a vice-president of the corporation. He has been with the firm since 1930.

**Foster Barnwell** has been elected president of Abbeville (S. C.) Cotton Mills, succeeding **H. A. Hatch,** resigned. **F. S. Nicholas** was named treasurer.

**Dr. C. Lalor Burdick,** chemist and executive of E. I. du Pont de Nemours & Co., Wilmington, Del., since 1928, has been appointed assistant to the president, **Lammot du Pont.**

**Henry B. Thompson, Jr.,** for many years associated with the United States Finishing Co., has joined the selling force of McCampbell & Co.'s rayon department, New York.

**Harry A. Brown,** Assistant Secretary of Agriculture, Washington, D. C., who during his term of office has been particularly active in the promotion of new uses for cotton, tendered his resignation to Secretary Wallace last month.

**George Garnett,** governing director of G. Garnett & Sons, Ltd., Apperley Bridge, Yorkshire, England, has been presented with the medal of the Textile Institute of Manchester in recognition of meritorious work both for the Institute and for the textile industry. Mr. Garnett was formally introduced by **Frank Nasmith,** acting secretary of the Institute for the duration of the war, and presentation was made by **E. W. Goodale,** head of Warner & Sons, Ltd.

**Harold F. Wimpfheimer,** vice-president of A. Wimpfheimer & Bros., Inc., has resigned from that firm to join the Merrimack Mfg. Co., with which concern he will devote himself to the production and distribution of velveteens and corduroys. The Wimpfheimer firm will continue as formerly under the direction of **Clarence A. Wimpfheimer,** president, and it is understood that the plant at Stonington, Conn. will continue in operation.

**Robert A. McKay,** Wellington-Sears representative at Atlanta, Ga., was made chairman of a committee to arrange for a party to be given by the Atlanta Textile Club during the coming holiday period.

**William Fraser,** of J. P. Stevens & Co., New York, is chairman of the woolen division in the annual Red Cross Membership Campaign.

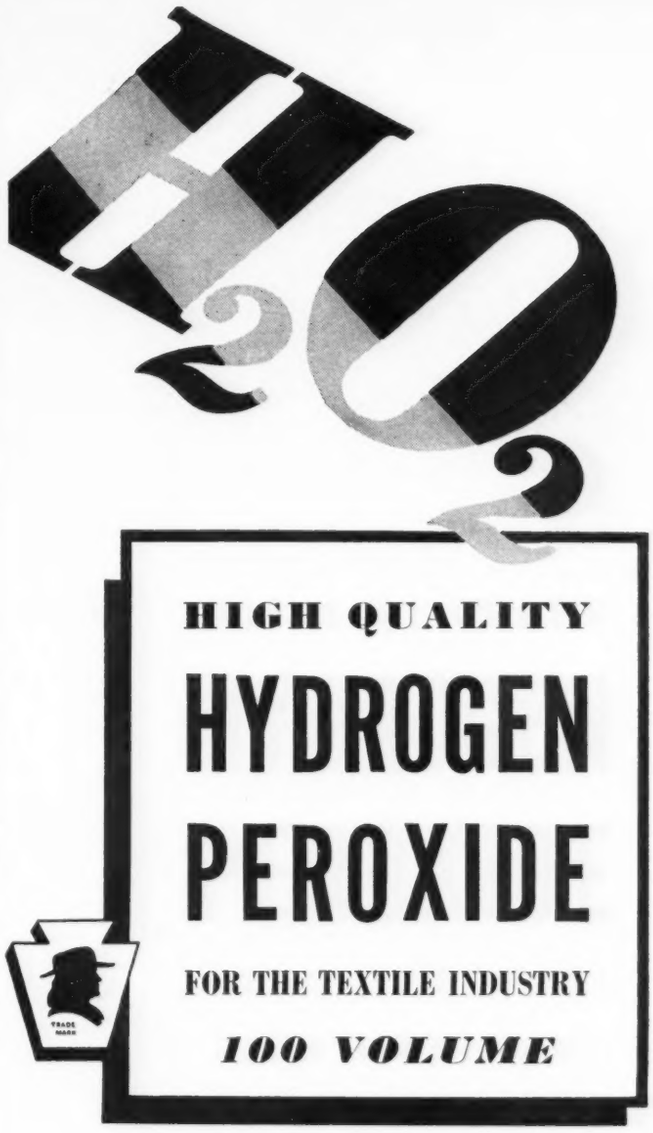
**Hans Nolde,** secretary-treasurer of Nolde & Horst Co., Reading, Pa., has been elected a member of the board of directors of the Reading Chamber of Commerce. Mr. Nolde succeeds **John H. Vogt,** president of the same concern.

**Dr. Leo Berl,** Austrian chemical engineer, has arrived in Vancouver, B. C., to act as consultant to Vancouver Rayon Silks Ltd. Dr. Berl was chief chemist of the first Bohemian rayon plant at Theresiental, Czecho-Slovakia.

**T. G. Gray,** who has been superintendent of Williamston, S. C., plant of Gossett Mills, has gone to Calhoun Falls, S. C., to head the Calhoun Mills of the Gossett chain.

**W. Linton Howard,** for a number of years with Callaway Mills, LaGrange, Ga., has become associated with **Wm. D. Ellis, 3rd,** of Southern Mills, Inc., Atlanta, Ga., in the development of their fabric department.

**E. P. Cofield,** superintendent of Edna Mills Corp., Reidsville, N. C., for the last three years, has been named general manager of Erlanger and No-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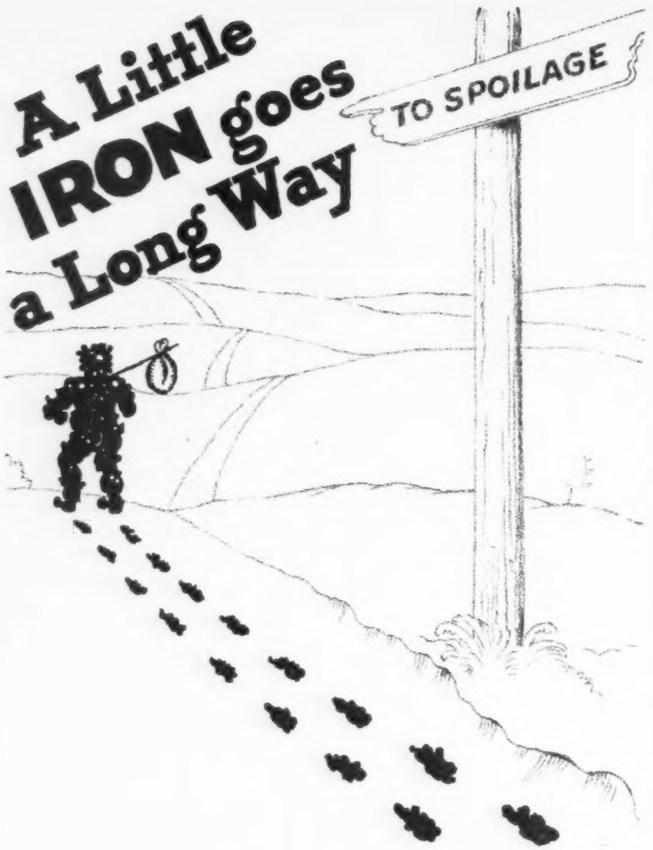


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komis Cotton Mills, Lexington, N. C. Mr. Cofield was for several years general superintendent of Chadwick-Hoskins Co., Charlotte, N. C. and prior to that with Gossett Mills, Anderson, S. C. In his new position he succeeds **Stuart W. Rabb, Sr.** who resigned as vice president and general manager after nineteen years with the Erlanger interests.

**Samuel A. Salvage,** who recently resigned as chairman of the board of American Viscose Corp., New York, was guest of honor at a dinner on Dec. 8 at the Union Club, New York. The event was a tribute on the part of the entire rayon yarn industry and brought together 40 leaders from companies in that field.

**Herbert A. Currier** has been elected president of Waterman, Currier & Co., New York, succeeding **George H. Waterman,** resigned. Mr. Currier was formerly vice-president. He is succeeded in that office by **R. O. Elliott,** formerly secretary, and **Gilbert W. Paul** has been elected secretary.

**Frank R. Scull** of Tubize-Chatillon Corp., New York, was reelected president of Textile Salesmen's Association on Dec. 6.

**Robert A. McKay,** of the Atlanta, Ga., office of Wellington Sears Co., has been elected president of the Atlanta Textile Club, succeeding **G. C. Robey** of Riverside & Dan River Cotton Mills.

**L. N. Hale** has resigned as manager of piece goods operations of Marshall Field & Co., Spray, N. C., to become production manager of Drayton (S. C.) Mills.

**Raymond H. Chase** has been made agent and assistant treasurer of Spencer Mills, Inc., Spindale, N. C. Mr. Chase was formerly associated with Warwick Mills, West Warwick, R. I.

**Harry Brown,** textile agent in Toronto, Ont., and formerly designer and superintendent of Rosamond Woolen Mills, has been named technical adviser to **Hector B. McKinnon,** head of the Federal Prices and Trade Board. The position, which does not carry a salary, will be held for the duration of the war.

**William E. G. Batty,** secretary of the New Bedford (Mass.) Textile Council, has been elected a director of Taber Mill, New Bedford, succeeding **Abraham Binns,** resigned. **Jacob Minkin,** of New Bedford, and **James Dolan,** of Pawtucket, R. I., were added to the directorate.

**John J. Libby,** New Bedford Textile School graduate, has joined the time study department of Bigelow-Sanford Carpet Co., Thompsonville, Conn. He was formerly with Androscoggin Mill and Lockwood Co.

**Wilford L. White,** formerly chief of the Marketing Research Division of the Bureau of Foreign & Domestic Commerce, has been appointed head of the combined editorial, correspondence and commercial intelligence divisions of the Bureau.

**George P. Torrence,** vice-president and general manager of Rayon Machinery Corp., a subsidiary of Industrial Rayon Corp., Cleveland, Ohio, has received the award for first place in the modern plastics competition for development of the spread-advancing reel used in Industrial's new plant at Painesville, Ohio. Presentation was made at a dinner at the Waldorf-Astoria Hotel, New York, on Nov. 14.

**Francis C. McQuillan** has been appointed editor-in-chief of the *Fabricator,* yearbook of the New Bedford (Mass.) Textile School. Associated with him are **Arthur B. Coe,** advertising manager; **William A. Poisson,** business manager. Officers of the Senior Class will act as an executive board. **Thomas H. Gourley,** head of the carding and spinning department, is faculty adviser.

**James W. Beattie, Jr.,** a graduate of New Bedford (Mass.) Textile School in 1939, has been appointed laboratory technician of Glenlyon Yarn Dye Works, Philipsdale, R. I.

**Henry Drake** has become manager of the Southeastern Mfg. Co., Monroe, Ga. He was formerly associated with Cordele (Ga.) Mfg. Co.

**Will Jeffries,** formerly of Winona, Miss., has become overseer of spinning at Birmingham (Ala.) Textile Co.

**James Tansey,** president of the American Federation of Textile Operatives, Fall River, Mass., celebrated his 75th birthday last month. An important city square has been named in his honor.

**Harry M. Schmitt** has been named sales manager of Jamestown (N. Y.) Worsted Mills, which has established its own direct selling organization at 247 Fourth Ave.

**Joseph Matthews,** formerly with Chatham Mfg. Co., has joined the Iselin-Jefferson Co., New York, where he will be associated with **Royal Murray** in merchandising blankets.

## NEWS ABOUT MEN

**Auguste Richard,** the new vice-president in charge of sales and merchandising at Pacific Mills, was guest of honor at a dinner given by **Alfred E. Colby,** president of the company, at Union League Club, New York, early last month.

**Joseph B. Keenan,** formerly textile consultant of American Woolen Co., has joined the staff of the textile division of the Laboratory Institute of Merchandising, New York.

**Charles G. Aschmann** has become associated with the rayon goods department of McCampbell & Co., New York.

**James A. Graham,** formerly with the American Woolen Co. for 18 years, has been appointed agent in charge of production of Scheuerman Woolen Mills, Des Moines, Iowa.

**William Macia,** of A. M. Tenney Associates, New York, has been named chairman of a new committee on yarn testing established by the American Association of Textile Technologists. **Charles Simon** of Industrial By-Products and Research Corp., Philadelphia, has been named chairman of a new committee on fabric testing.

**C. Clyde Moore** was elected president of the Boston Wool Trade Association at that organization's annual meeting Nov. 21. **Percy E. Sheldon** was named vice-president and **C. Willard Bigelow,** secretary-treasurer.

**Albert Geddes,** formerly of the Putnam (Conn.) Finishing Co., is now superintendent and part owner of the Gilt-Edge Finishing Co., Quidnick, R. I.

**Louise Huston,** director of educational service for American Bemberg Corp., New York, spoke before the Retailer-Wholesaler Bureau of Hartford (Conn.) Chamber of Commerce, on Nov. 21.

**Charles E. Babst,** connected for the last 15 years with the Celanese Corp. of America's plant in Cumberland, Md., has been transferred to that company's New York office.

**Albert N. Whiteside,** for several years night superintendent of the Victoria Cotton Mills, Rock Hill, S. C., has become superintendent of that plant succeeding **J. J. Rauch** who resigned to become Rock Hill city manager. Mr. Whiteside had been connected with the Victoria Mills since his graduation from Clemson in 1906.

**Grover C. Furr** has become general superintendent of full-fashioned hosiery division, Burlington (N. C.) Mills. He was formerly in charge of full-fashioned plants of Adams-Millis Corp., High Point and Tryon, N. C.

**C. E. Hendrixson,** treasurer of American Viscose Corp., New York, has resigned and will retire from active business at the end of the year. He will be succeeded by **Wm. H. Brown,** secretary of the corporation. Mr. Hendrixson joined the company as secretary-treasurer in 1921.

**John D. Siewers** has been appointed superintendent of Washington Mills, Fries, Va., succeeding the late J. W. Bolton.

**J. T. Huneycutt,** formerly superintendent of Sellers Mfg. Co., Saxapahaw, N. C., has become general superintendent of Greenville (N. C.) Spinning Co.

**T. J. McNeely,** formerly of Rhodes-Rhyne Mfg. Co., has been named superintendent of Locke Cotton Mills, Concord, N. C.

**Robert Cushman,** formerly of Stonecutter Mills Co., Spindale, N. C., is now superintendent of Abbeville (S. C.) mills.

**R. D. Bunn,** formerly superintendent of Henderson (N. C.) Cotton Mills, is now superintendent of Harriett Cotton Mills, No. 1, also at Henderson.

**G. W. Johnson,** formerly superintendent of Bradford Mills, Prattville, Ala., is now superintendent of Marlboro Mills, McColl, S. C.

**Kenneth C. Mills** was recently appointed superintendent of Dominion Textile Co., Mt. Royal, Montreal.

**Henry Wilson,** formerly with Eva Jane Mills, unit of Avondale Mills, Sylacauga, Ala., has been transferred to second hand in weaving at the plant of the same company at Pell City, Ala.

**F. R. Smith,** formerly overseer of weaving at J. W. Sanders Cotton Mills, Starkville, Miss., has been transferred to superintendent of the company's new unit at Mobile, Ala.

**Edgar Isreal** is now superintendent of Birmingham (Ala.) Textile Co.

**W. C. Jordan,** formerly of Cateechee, S. C., has become overseer of carding and spinning at Easley Cotton Mills, No. 2, Liberty, S. C.

**Jim King,** formerly overseer of carding and spinning at Avondale Mills, Clanton, Ala., has been promoted to assist-

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## NEWS ABOUT MEN

ant superintendent of the company's unit at Sylacauga, Ala.

**J. B. Hall** has resigned as general machinery overhauler at Dixie Mercerizing Co., Chattanooga, Tenn., and accepted a similar position with Springs Cotton Mills, Chester, S. C.

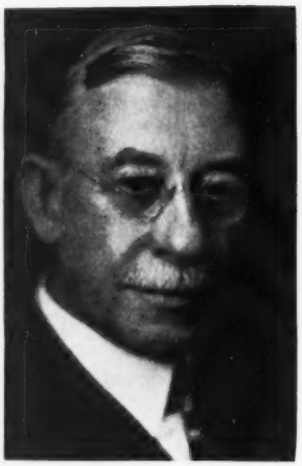
**C. E. Toney,** formerly overseer of weaving at Jefferson (Ga.) Mills, No. 1 unit, has been promoted to superintendent of Jefferson Mills No. 3, Royston, Ga.

**Lee McLemore,** formerly superintendent of Bladenboro (N. C.) Cotton Mills, is now superintendent of Rockfish Mills, Hope Mills, N. C., and Cumberland, N. C., succeeding **J. C. Farmer,** resigned.

(Other items on page 112)

# Obituary

**Wallace I. Stimpson,** 75, vice-president and chairman of the board of the Draper Corporation, died at his home in Hopedale, Mass., Nov. 21. He had been suffering from a heart affection which caused him to give up active duties last July, but he was in touch with the business until a short time before his death. Mr. Stimpson was born in Hopedale. His father, Edward Stimpson, had been connected with the Draper interests the larger part of his life. After a training in the shops, the younger Stimpson became one of the sales representatives, and was selected in 1914 to succeed the late Gov. Eben S. Draper as agent of the company. During his 25 years as agent, vice-president and chairman of the board, Mr. Stimpson made many inventions and played an important part in development of Draper looms, shuttles, bobbins and spindles. He was a member of the N.A.C.M. and the A.C.M.A., and his personal acquaintance was said to cover nearly every cotton manufacturer in the country. He is survived by a daughter and two brothers, Harry F. Stimpson of Brookline, and Warren D. Stimpson of Worcester.



Wallace I. Stimpson

**James Simpson,** 65, chairman of the executive committee and former president of Marshall Field & Co., died in Chicago, Nov. 25. Mr. Simpson is credited with much of the development of Field's which he joined in 1891. He later became private secretary to Marshall Field and rose to the presidency in 1923. He had lately been engaged as chairman of three Insull utilities.

**Jackson Marx, 37,** president of Associated Textiles of Canada, Ltd., Louiseville, Que., died recently. He went to Canada from New York in 1929.

**Charles M. Rowe,** 62, president of New City Mills, Newton, N. C., died recently.

**John Irving Westervelt,** Greenville, S. C., active in the organization of the Brandon Corp., and its first president, later organizing the Westervelt Mills, serving as its president for many years, which is now the Judson Mills, died at Greenville, Nov. 15.

**W. N. Randle,** head of the textile designing department of Anchor Duck Mills, Rome, Ga., and former faculty chairman of athletics at Georgia Tech, died suddenly Nov. 11 while watching a football game at Grant Field, Atlanta. He was a graduate of Philadelphia Textile School. He built and was first superintendent of the Hadley Mills, Roanoke, and was later with Piedmont Plush Mills, Greenville, S. C.

**William Cohen,** 52, head of William Cohen Fabrics Corp., New York, died last month. He had been for some 30 years with the Finsilver, Still, Moss Co.

**Ralph J. McNeil,** 48, for 15 years superintendent of Harris-Emery Co., Penacook, N. H., died last month.

**Noah C. Barnhart,** 72, who retired from the cotton goods firm of Bonties, Barnhart & Schultz, New York, in 1921, died at his home in Plainfield, N. J., Nov. 8. Early in his career he was with Arnold Print Works.

**Joseph Calvin Plonk,** 87, retired president of Cherokee Falls (S. C.) Mfg. Co., died at Rutherfordton, N. C., Nov. 29. He was a charter member of South Carolina Cotton Manufacturers' Association and life member of American Cotton Manufacturers Association.

**John T. Shipman,** president of Shuford Hosiery Mills, Hickory, N. C., died Dec. 4.

**Wm. A. Mahr,** 63, sales representative for Samuel Hird & Sons, New York, for 25 years, died Dec. 1.

**John H. Hill,** 75, senior salesman and New England district manager for the last 20 years for Steel Heddle Mfg. Co., died Nov. 22 in Providence, R. I. He was with the company for 38 years.

**M. A. H. Braham,** 47, secretary-treasurer of the Arkansas Co., Newark, N. J., died Dec. 1.

**Charles L. Petze,** 66, who retired in 1927 as manager of Fabrikoid Division of the E. I. du Pont de Nemours & Co., died at his home in Margate City, N. J., Nov. 6.

**William F. Shaw,** 81, retired superintendent of Leonard Woolen Mills, Bennington, Vt., died Nov. 13 at his home in Worcester, Mass.

**Henry A. Francis,** 78, for many years associated with the former Pontoosuc Woolen Co., Pittsfield, Mass., and for much of that time president of the company, died at his home in Pittsfield, Nov. 11.

**J. R. Stine,** 75, who retired in 1933 as president of the Balata Victor & Textile Belting Co., New York, died at his home in Brooklyn, N. Y., Nov. 8.

**John R. McLaren,** treasurer of Thermo Mills, Hudson, N. Y., died recently.

**Abram Lewin,** 68, superintendent of the Superior Knitting Mills, Royersford, Pa., died recently.

**William Will,** 71, vice-president of Walker Bag Co., died Nov. 19. Mr. Will was a native of Dundee, Scotland, and came to the United States in 1886.

**Charles M. Dunn,** 81, retired superintendent of several North Carolina cotton mills, died Nov. 2 in Charlotte. In 1888 Mr. Dunn helped build and became superintendent of Gastonia Mfg. Co., the first textile mill in Gaston county. Later he served as superintendent of Avon Cotton Mills, Loray Cotton Mills and Myrtle Cotton Mills.

**Ralph Hunter,** 60, of Taylor, Clapp & Beall, New York, but for many years a leading figure in the shirt manufacturing business, died Nov. 25. He was chairman of the Cotton Garment Code Authority under NRA.

**George C. Atkinson,** formerly of Atlanta, Ga., where he was for many years secretary of Southern Belting Co., and more recently representative of Saye Belting Co., died at Providence, R. I., Nov. 4.

**Joseph J. Booth,** associated for many years with Benjamin Booth Co., Philadelphia, died on Nov. 10.

**Reginald F. Richard,** general manager of the Phosphate Division of Monsanto Chemical Co., died recently in St. Louis.

**P. W. Matheson,** 59, representative of Norris Bros., textile supplies, died recently in Charlotte, N. C.

**Don L. Hurlbut,** Chattanooga, Tenn., yarn broker, died at Hollywood, Fla., last month.

**Frederick J. Minor,** 62, for many years with the New York office of American Woolen Co., died at his home in Montclair, N. J., Nov. 24. He spent his early life in Andover, Mass., where he became associated with the big woolen company. He had recently been with Bodell & Co., brokers.

**J. W. Bolton,** superintendent of Washington Mills, Fries, Va., died last month.

**Everett B. Campbell,** 73, retired superintendent of Lackawanna Knitting Mills, Scranton, Pa., died recently in that city.

**Abram Lewin,** 68, superintendent of Superior Knitting Mills, Royersford, Pa., died last month.

**Thomas J. Wilson,** 59, superintendent of Forsyth (Ga.) Cotton Mills, died Oct. 27.

**James T. Garvin,** 70, retired superintendent of Roxbury Carpet Co., Saxonville, Mass., died Nov. 9.

**Frederick A. Scheutzow,** 69, retired textile plant manager of Oswego, N. Y., died in that city Nov. 8. He was with Switz Conde mills, later going to Frederic Conde mills.

**Roy W. Hutchens,** 48, for many years superintendent of Amos Hosiery Mill, High Point, N. C., until his health failed, died Nov. 1.

**J. S. Rogers, Sr.,** 76, overseer of the slasher room of Monarch Mills, Union, S. C., died Nov. 20.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Superior sanforizing, softening and wetting-out agent. Will not discolor white fabrics.

Unsurpassed for sanforizing and wetting-back.

Radical improvement in cotton and rayon processing.

Fast penetration . . . an excellent dye-bath leveler.

All-purpose agent for wet-finishing.

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Outstanding in performance and economy.

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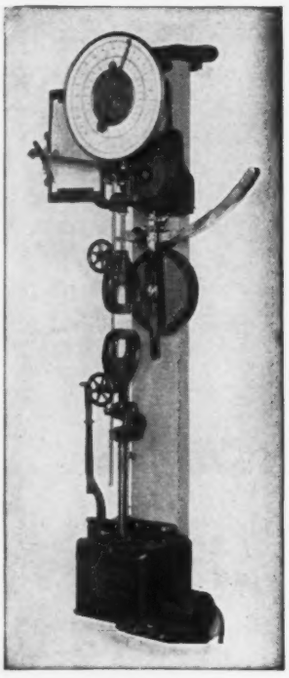

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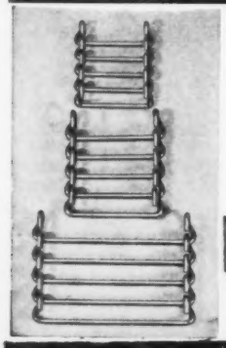

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The ideal tool for cleaning out slots in sinker and divider heads. Made in all gauges. Each one comes in a leather carrying case.

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STEEL PRODUCTS COMPANY
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# TEXTILE MILL NEWS

## Cotton Mill News

**Alabama Textile Products Corp.,** Montgomery, Ala., will erect a two-story building at its Andalusia plant.

**American Combed Yarn Co.,** Gastonia, N. C., is building a one-story addition to its local Armstrong mill, for expansion in carding department. Work is nearing completion on a similar extension at the local Clara mill, for enlargement of finishing division, to be ready in December.

**Anniston** (Ala.) **Mfg. Co.** is erecting a one-story addition, for weave shed. Cost about $50,000, with equipment. Contract was let recently to Daniel Construction Co., Birmingham, Ala. J. E. Sirrine & Co., Greenville, S. C., are architects and engineers.

**Appleton Co.,** Anderson, S. C., has installed 58,000 spindles of Saco-Lowell long-draft spinning. This corrects the report given in this column last month.

**Avondale Mills,** Pell City, Ala., have installed a new Sanforizer.

**Baldwin Textile Mill,** Elkton, Md., suffered damage of $17,500 by fire last month.

**Bibb Mfg. Co.,** Porterdale, Ga., will install 250 looms in new addition.

**Birmingham** (Ala.) **Textile Co.,** with 30,000 spindles and 600 looms, has been purchased by R. D. Sanders and associates of Jackson, Miss., and the plant will be put into operation as early as possible.

**Bondsville** (Mass.) **Mills** have recently installed 300 looms taken from the Columbia Mills plant at Greenville, N. H. Production will be indigo-dyed denims.

**Booth Mill,** New Bedford, Mass., purchased recently by Booth Mill Associates from the RFC is being dismantled.

**Borden Mills,** Kingsport, Tenn. plan installation of long-draft attachments on 88 warp frames. Saco-Lowell Shops have the order.

**Brandon Corp.,** Greenville, S. C., has purchased 20 new long-draft roving frames, and also has changed their drawing to controlled-draft system. Saco-Lowell Shops have the orders.

**Cannon Mills Co.** is erecting five new warehouses, each 50x100 ft., at its two plants in Kannapolis, N. C.

**Cedartown** (Ga.) **Textiles, Inc.,** has installed a new high-speed tenter dryer made by Philadelphia Drying Machinery Co.

**Central Falls** (N. C.) **Mfg. Co.** will install 300 additional looms in large addition now under construction.

**Cleveland Mill & Power Co.,** Lawndale, N. C., has begun erection of a two-story addition, 27x180 ft., for warehouse. Cost estimated $25,000.

**Darlington** (S. C.) **Mfg. Co.** have sold 180 houses of their mill village to employees.

**Dwight Mfg. Co.,** Alabama City, Ala., is installing 400 new looms as replacements.

**Glen Raven** (N. C.) **Cotton Mills** have awarded general contract to Bryan & Bayliff Co., Burlington, N. C., for one-story addition to house 50 looms. Cost close to $40,000, with equipment. Company has concluded arrangements for purchase of Kinston (N. C.) Textile Mills, for a consideration of $100,501, and will improve for early operation as the No. 2 mill. Ernest M. Boys, formerly superintendent of Pisgah Mills, Brevard, N. C. has accepted position as superintendent of this mill.

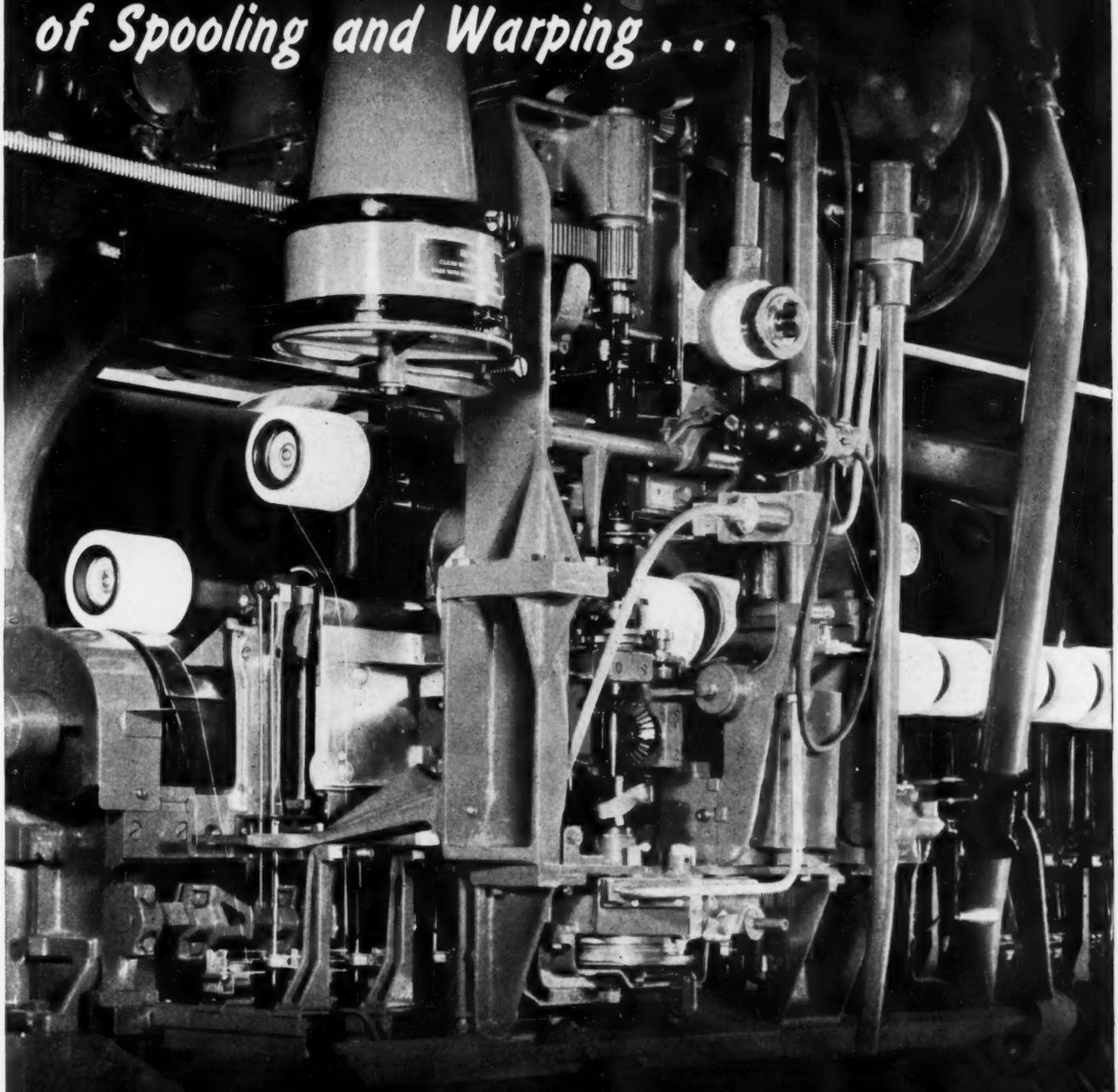
**Glencoe Cotton Mills,** Columbia, S. C. Sale has been held open in the hope that other bids higher than the $20,000 offered by the city of Columbia will be received.

**Goodyear-Clearwater Mills,** Cedartown, Ga., are installing addition card-room machinery.

**Net Profit and Loss Statements** recently released show 1939 gain over 1938.

| | Periods ending in 1939 | Similar periods year previous |
|---|---|---|
| West Point Mfg. Co. (year to Aug. 26) | 923,082 | —212,421 |
| Hathaway Mfg. Co. (year to Sept. 30) | 229,981 | —18,654 |
| Berkshire Fine Spg. Associates (year to Sept. 30) | 284,377 | —517,109 |
| Bibb Mfg. Co. (year to Aug. 31) | 1,096,071 | 773,918 |
| Wamsutta Mills (year to Sept. 30) | —15,131 | —119,914 |
| Florence Mills (year to Sept. 30) | 26,271 | —59,201 |
| Hathaway Mfg. Co. (year to Sept. 30) | 229,981 | —18,654 |
| McCampbell & Co. (9 months to Sept. 30) | 129,718 | 59,182 |
| Eagle & Phenix Mills (year to Aug. 31) | —7,748 | 33,958 |
| Celanese Corp. (third quarter only) | 1,234,035 | 1,325,099 |
| Sidney Blumenthal & Co. (third quarter) | 165,865 | —235,857 |
| Atlantic Rayon Corp. (year to Sept. 30) | 158,078 | —228,805 |

# *Kinks are Eliminated and Quality is Improved with the Barber-Colman System of Spooling and Warping . . .*



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Positive Mechanical Tie-up and Handling of Yarn Packages Insures Consistently Uniform Quality

**BARBER-COLMAN COMPANY**

**ROCKFORD, ILLINOIS, U. S. A.**

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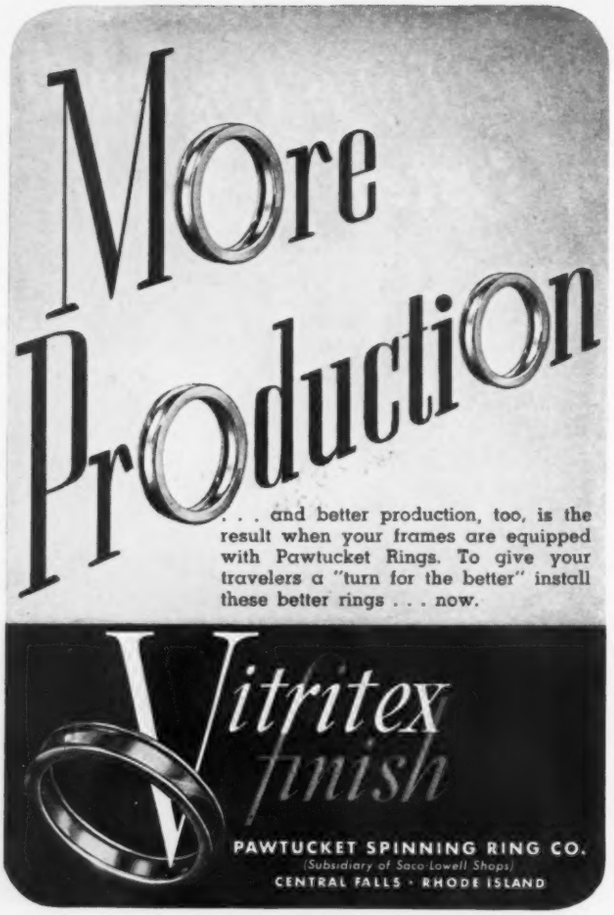
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PAWTUCKET SPINNING RING CO.
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T.W.-39

## TEXTILE MILL NEWS

**Hyde Textile Co.,** Cranston, R. I., has leased an elastic braid plant in Wickford from Mrs. G. M. Barolet.

**Icard (N. C.) Cordage Co.** awarded contract for construction of a one-story brick cotton storage warehouse, 50x100 ft. to Abee & Eckard, local contractors.

**Louis Lavitt Co.,** Hickory, N. C., yarn plant, has begun construction of a warehouse on Highland Avenue.

**Locke Cotton Mills Co.,** Concord, N. C., has obtained a court order to operate for six months.

**Marlboro Cotton Mills,** Bennettsville, S. C., will be leased to Hesslein & Co., New York. This company was formerly sales agent for Marlboro.

**Mary Louise Mill,** Mayo, S. C., will resume operation Jan. 1 after being idle several years. It has been chartered under name of **Mayo Mill, Inc.,** with J. A. Neisler, president. About 24 new spinning frames will be installed.

**Mauney Mills, Inc.,** Kings Mountain, N. C., has purchased from Saco-Lowell Shops a number of new 5-roll drawing and lap winders.

**Morgan Cotton Mills,** Laurel Hill, N. C., are reopening their branch mill at Quitman, Ga., idle for several years.

**Nashua Mfg. Co.'s Indian Head Mill** in Cordova, Ala., resumed operation Nov. 6 after a two-year holiday.

**Naomi Cotton Mills,** Randleman, N. C., have been remodeled and will manufacture yarns for cotton rugs and mops.

**Pee Dee Mfg. Co.,** Rockingham, N. C., has purchased new five-roll drawing frames and lap winders to be installed in both No. 1 and No. 2 mills. The spinning frames and roving frames in No. 1 mill will be changed to long draft. New control draft drawing and spinning frames with paper tubes will be installed in No. 2 mill. The Saco-Lowell Shops have the machinery orders.

**Powdrell & Alexander,** Charlotte, N. C., have purchased all the machinery of Carolina Curtain Co., Salisbury, N. C., and moved it for installation in the Charlotte plant for 40% increase in capacity.

**Puritan Weaving Co.,** Fayetteville, N. C., has recently installed $100,000 worth of new spinning equipment.

**Riverdale Mills,** Enoree, S. C., has installed $75,000 worth of new equipment which will allow the same production with half the former operating force.

**Riverside & Dan River Mills, Inc.,** Danville, Va., are paying a 3% dividend amounting to $225,000, on Dec. 21. This is the first dividend since July 1, 1937.

**Robinson Yarn Mills,** Dallas, N. C., is constructing a yarn conditioning room.

**Rex-Hanover Mills Co.,** Gastonia, N. C., has been organized to consolidate Rex Spinning Co., with mill at Ranlo, and Hanover Mills, Inc., with three local mill units. A. G. Myers, head of both companies, will be president of new organization.

**Scranton (Pa.) Lace Co.** plans a one-story brick and steel addition to its finishing plant. A new weaving plant and shipping department were completed in last two years.

**Sellers Mfg. Co.,** Cedar Falls, N. C., formerly Sapona Mills, is installing new combers and new twisters.

**Springs Cotton Mills,** Fort Mill, N. C., will build a 300x200 ft. addition to the No. 1 unit to cost $250,000. Construction will be completed May 1, 1940. Springstein plant at Chester, S. C., will also have an addition; a new office building, and new homes for employes. The Eureka plant at Chester has installed 400 new Model X looms, replacing the same number of Model E looms, for manufacture of cotton and cut-rayon materials.

**Startex Mills,** Tucapau, S. C., are constructing a warehouse at the bleachery.

**Victor Balata & Textile Belting Co.,** Easton, Pa., has let general contract to A. Raymond Raff Co., Philadelphia, for one-story addition, 55x150 ft. cost over $40,000.

**Washington Mills Co.,** Mayodan, N. C., has completed installation of a 48 in. Fletcher Whirlwind extractor.

**Wilcox Lace Corp.,** Middletown, Conn., is installing additional machinery including two lace-making machines.

**Woodstock Mfg. Co.,** Anniston, Ala., plans to double its capacity. It manufactures cotton yarns, ticking, and damasks.

### Wool Mill News

**Blackinton Co.,** North Adams, Mass., will get new financing to enable it to obtain a $250,000 loan from the RFC, with an additional $68,000 promised.

**Caryville Mills,** Bellingham, Mass., were sold Nov. 22. Equipment includes 36 C. & K. 92-inch automatic looms.

# SPECIFY SKF! INSTALL SKF!

# WATCH SKF CUT COSTS!

• *Cross-section view showing ball and roller bearings in SKF Tape Tension Pulley.*

• *A few of the 3,864 SKF Tension Pulleys installed by the Dallas Mfg. Co.*

**SKF Tension Pulleys can be installed on new or old machinery. Their design and rugged construction completely eliminate the common troubles experienced in spinning and twisting frames equipped with plain bearing tension pulleys.**

**There are no wooden or fibre bushings to replace . . . no drag caused by fly accumulation . . . no attention needed for lengthy periods.**

**Consequently, they *DO* save maintenance. They *DO* save power. They *DO* save operating costs. Ask *any* textile machinery manufacturer about SKF Tension Pulleys, or write direct.** 4465

**SKF TENSION PULLEYS**

**SKF INDUSTRIES INC., PHILADELPHIA, PENNA.**

DRAPER SOAPS are Dependable Soaps. For a great many years the J. O. Draper Company has been supplying the textile industry with better soaps for finishing processes.

DEPENDABLE

The industry has come to realize that the phrase *"Depend On Draper"* is not just an advertising slogan, but a fact that is of real help in the production of better cloth.

*Write for literature and prices.*

**J. O. DRAPER Co.**

**PAWTUCKET, R. I.**

*"Low Prices Never Bought Quality"*

**WHITMAN Yarns**

ARLINGTON MILLS
LAWRENCE, MASS

CRAMERTON MILLS
CRAMERTON, N. C.

INGRAM SPINNING CO.
NASHVILLE, TENN.

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LAWRENCE, MASS.

NONQUITT MILLS
NEW BEDFORD, MASS.

**WILLIAM WHITMAN COMPANY, INC.**
NEW YORK BOSTON PHILADELPHIA CHARLOTTE

Newly completed viscose staple fiber plant of American Viscose Corp., Nitro, W. Va. The second unit, which has just been added, started production Nov. 1. This plant will have a capacity of 55,000,000 lb.

**New England Woolen Mfg. Co.,** East Haddam, Conn., has incorporated with capital of $50,000. Incorporators are: Cora F. Beckwith, Dorothy L. Bundy and Anne Foley, all of Norwich.

**Farr Alpaca Co.,** Holyoke, Mass. has chosen new directors as follows: Comstock Clayton, Ira M. Hones, Harry M. Stonemetz and Preston Upham. Stockholders suit for appointment of a receiver was dismissed by the Superior Court.

**Huntingdon Woolen Mills, Ltd.,** a new concern with a capital of $100,000, is starting production in the plant at Huntingdon, Quebec, formerly used by the defunct Windsor Silk Mills Ltd. The plant will produce woolens from wastes and lower grade wools, with 6 sets of cards, and 35 automatic looms.

**Leominster** (Mass.) **Mills Inc.,** has been sold to the Anchor Mercantile Co., Inc., of New York.

**Lebanon** (N. H.) **Woolen Mills Corp.** has filed plans for a boiler plant addition 40x40 ft. Mark Linenthal, Boston, Mass., is the engineer, and W. H. Trumbull, Hanover, N. H., has the contract.

**Madison Spinning Co.,** Philadelphia, Pa., has let general contract to J. L. Towley, Inc., Philadelphia, for one-story addition.

**Manetta Mills,** Lando, S. C., is installing 50 Crompton & Knowles blanket looms to begin operation Jan. 1.

**Park Woolen Mill,** Sabattus, Me., has been bought by L. N. Rosenbaum & Son.

**Portland** (Ore.) **Woolen Mills, Inc.,** plan two-story addition, 34x132 ft., to cost $40,000, with equipment. Claussen & Claussen, Portland, are architects.

**Talbot Mills,** No. Billerica, Mass., suffered $10,000 fire damage on Nov. 21.

**Texas Scouring & Wool Mfg. Corp.,** Marble Falls, Tex., has approved plans for one-story mill on local site, including improvements in present two-story mill. Cost estimated close to $150,000, with equipment.

**York** (Pa.) **Felt Mills, Inc.,** have been incorporated for $200,000. Officers are Morgan S. Blauser, president; Elmer M. Morris, treasurer, and Richard M. Budding, secretary. The firm has purchased the plant of York Paper Mfg. Co., comprising 50,000 sq.ft. floor space, and will install machinery for the manufacture of floor coverings, etc.

## Rayon & Silk Mill News

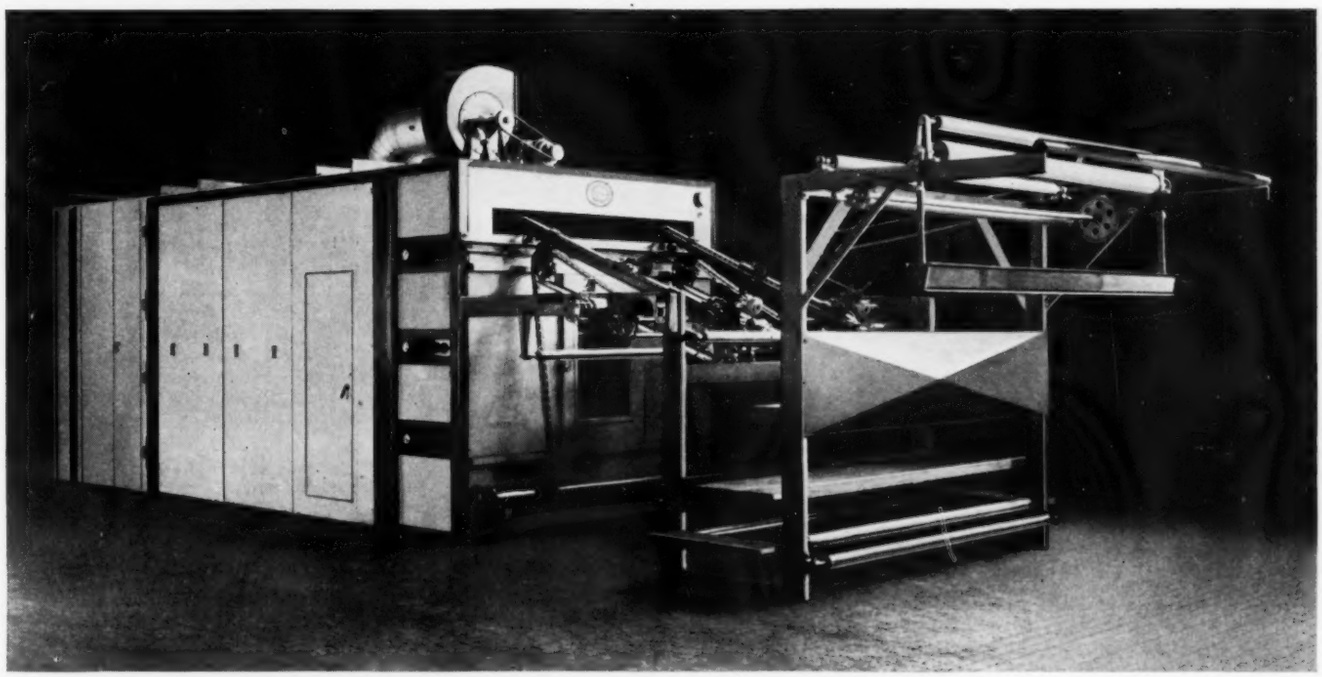
**American Velvet Co., Inc.,** reopened its plant at Stonington, Conn., Nov. 20 after a long shut down. The company had planned to move to Selma, Ala. Local authorities however, induced the organization to continue here.

**American Viscose Corp.,** New York, has begun operations in the second unit of new spinning mill for rayon staple fiber at Nitro, W. Va., recently completed, giving plant a rated capacity of about 55,000,000 lbs. of staple per annum. At Meadville, Pa., company has awarded contract to Keystone Construction Co., Meadville, for a reinforced-concrete spray pond, 120x180 ft., at boiler plant. Ballinger Co., Philadelphia, is architect. The com-

# NOW—A New Standard of Tenter Performance that means New Profits *for you!*

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

***New Hunter Uni-Flow Tenter Affords Cloth Speeds on 16 Ounce up to 38 Yards per Minute in 12 Linear Feet for the Drying Chamber***



Hunter announces the new Uni-Flow return bend tenter—the latest addition to the long Hunter record of achievement in cloth drying—a record unequalled by any other tenter manufacturer.

Developed in the closing months of 1939 after months of testing, the new Hunter Uni-Flow is setting production records unlikely to be challenged. The Uni-Flow Tenter, for example:

(a) Tenters 16 oz. woolens or worsteds at 38 yards per minute in 12 linear feet of floor space for the drying chamber with less than 12 HP.

(b) Guarantees most efficient known use of heat and air.

(c) Affords one man operation at highest speeds with completely automatic safety features.

(d) Will dry three times as much cloth as most old tenters in one-third the floor space.

(e) Comes complete with all motors, starters, limit switches, automatic guiders, selvage openers, lint screens, automatic temperature and speed controls . . . the user need only wire motors and bring steam lines to the machine.

***For complete details on this radically different Uni-Flow Tenter and actual production records on wide varieties of cloth write***

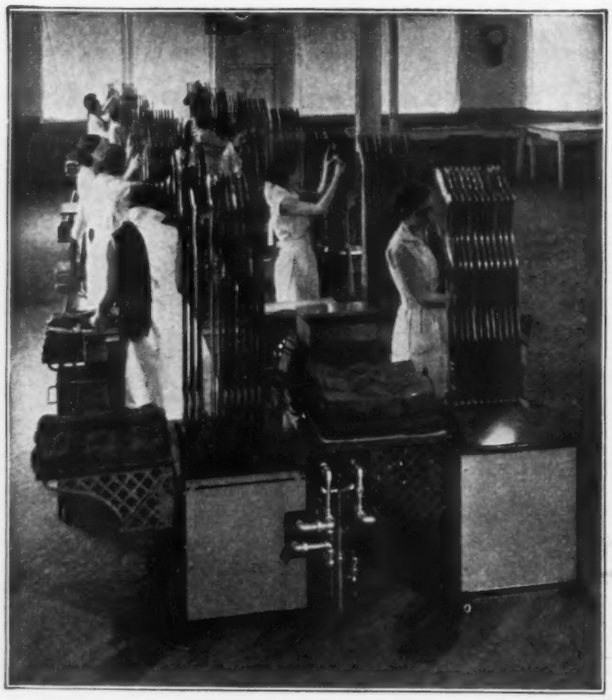
## JAMES HUNTER MACHINE COMPANY

**FOUNDED 1847** **NORTH ADAMS, MASSACHUSETTS**

**PARAMOUNT DUAL HEAT**

# 1000 DOZENS DAILY

## HOSIERY FINISHING



A PRODUCTION in excess of 1,000 dozens full fashioned ladies' hosiery is being finished daily on the 13 PARAMOUNT DUAL HEAT MACHINES operated in this mill during one eight-hour shift—and the character and quality of the work is incomparable since the PATENTED DUAL HEAT principle of drying is positive protection against "baking" delicate silk fabrics. Not only does the PARAMOUNT DUAL HEAT MACHINE contribute outstanding features of production and quality, but it represents—

1. Less investment per dozen
2. A minimum of floor space occupancy
3. Less power and steam consumption per dozen
4. Ideal room and working conditions
5. Less maintenance
6. Ease and comfort to the operator
7. Simplicity and durability of construction

Any one feature alone, of the numerous advantages which the PARAMOUNT DUAL HEAT MACHINE offers, will justify a change to this superior method of hosiery finishing.

WRITE FOR DETAILS

*Furnished on SALE or RENTAL Plan.*

**PARAMOUNT TEXTILE MACHINERY CO.**

**538 South Wells Street Chicago, Illinois**




pany is working with the State and its employees to permit continuance of Marcus Hook plant. Same company at Roanoke, Va., announces plans for free medical service for its 20,000 operatives.

**Bedford Silk Co.,** Waterbury, Conn., has filed plans for alterations and improvements to cost about $15,000.

**Bridgeport** (Conn.) **Fabrics Inc.,** has awarded contract for a one-story brick and steel addition, 35x130 ft., to its No. 2 plant to John L. Simpson, Bridgeport.

**Burlington Mills, Inc.,** Greensboro, N. C., have completed one-story addition to Hillcrest mill at High Point, 100x150 ft., for warehouse.

**Carter Fabrics Corp.,** Greensboro, N. C., has begun erection of a 480-loom mill on 220 acres near South Boston, Va., consisting of several units, to employ about 400 persons. Completion is scheduled for early spring. Cost estimated close to $1,000,000. General erection contract awarded to C. M. Guest & Sons, Anderson, S. C. J. E. Sirrine & Co., Greenville, S. C., are the architects.

**Celanese Corp. of America,** New York, is completing an addition to mill at Amcelle, near Cumberland, Md., and will use for 5% expansion in winding division; cost estimated over $175,000, with machinery. Stabilization of the water supply is also being arranged. Same company has two shifts installing machinery at Pearisburg, Va., plant, and expects to begin operations around Jan. 1. It is believed that regular grades of acetate will be the first class of material produced.

**Century Ribbon Mills, Inc.,** Radford, Va., has completed an addition to double capacity. Four new looms are already in place and four additional looms will be installed each two weeks until the work is completed.

**Grenada** (Miss.) **Industries** are installing air-conditioning system which will cost about $15,000.

**Majestic Weaving Co., Inc.,** New Bedford, Mass., recently chartered, has leased space in the former Nashawena Mill. About 80 looms will be installed, with winding, warping and other equipment. Maurice Antkies is president; and Burgoyne Wooley, Jr., treasurer.

**Louis Meyer,** Rutherford, N. J., has plans to take over the former plant of Gritman Throwing Co., Danville, Pa. It is planned to remodel, install some new equipment and resume production.

**Nasher Mfg. Co.,** Needham, Mass., has purchased the plant on Cushing St., Stoughton, formerly occupied by Colt-Cromwell Co. and will start cloth manufacture about Jan. 1.

**Plains** (Pa.) **Throwing Co.,** recently organized, is planning the operation of a mill, for which property is being acquired.

**South Boston** (Va.) **Weaving Corp.** has begun a unit to contain 6,000 sq.ft. of floor space. The plant manufactures ribbons.

**William Skinner & Sons,** Holyoke, Mass., are installing 64 model XD Draper looms on the fourth floor of the Appleton Street division.

**Tennessee-Eastman Corp.,** Kingsport, Tenn., has work in progress on several new one-story units to provide increased capacity for staple fiber manufacture.

**Vancouver Rayon Silks, Ltd.,** Vancouver, B. C., organized recently by Paul Zuest, will take bids soon for initial unit of proposed mill at North Vancouver, where tract of land has been acquired. It will comprise a one- and multi-story structure, reported to cost close to $500,000, with equipment.

**Vernon Mfg. Co.,** Orange, Va., new velvet mill, located on Spicer's Mill Road, is scheduled to get into operation early in January. Plans are under way to add an additional unit.

**White Sulphur Springs,** W. Va., will be the home of a new weaving plant on which general contract has been let to John P. Pettyjohn & Co., Lynchburg, Va.

**Western Canadian Woolen Mills,** Vancouver, B. C., are being enlarged with orders for army blankets and other military equipment in sight.

### Knitting Mill News

**Archer Hosiery Mills,** Columbus, Ga., have begun two-story addition, 70x125 ft., with extension 30x45 ft.; contract recently let to Murphey Pound, Columbus. Cost close to $50,000, with equipment. J. N. Pease & Co., Charlotte, N. C., are engineers.

**Wm. A. Blade,** of Virginia, has plans for a hosiery mill at Mooresville, N. C.

**James A. Brewer** has plans for a hosiery mill at Lynchburg, Va.

**William Carter Co.,** Barnesville, Ga., is building an addition to its finishing department to cost $25,000.

**Doyle Hosiery Corp.,** Doylestown, Pa., has installed

# "I MUST HAVE BEEN COLOR BLIND BEFORE I USED Gardinol"*

REG. U. S. PAT. OFF.

*GARDINOL WA

*GARDINOL LS

**Available in both flake and paste form**

*"Gardinol" is the registered trademark used by the Gardinol Corporation to designate a group of its sulfated higher alcohols, of which there are several types, each with special properties desirable for particular conditions and requirements.

THE USE of Gardinol in soaping cotton, rayon, and silk prints assures bright colors and clear whites. Helps you to produce better-looking, faster-selling merchandise. And Gardinol not only improves the appearance and quality of your fabrics, but enables you to reduce reprocessing to a minimum.

Gardinol eliminates the possibility of scum or sticky hard water deposits remaining on the fabrics! And as Gardinol is effective in hard water as well as in soft, it is not necessary to use any water-softening agents!

Any of our sales agents listed below will be glad to answer your questions and furnish you with complete information about Gardinol.

**GARDINOL CORPORATION, GENERAL OFFICES, WILMINGTON, DELAWARE**

**SALES AGENTS: Procter & Gamble, Cincinnati, Ohio · National Aniline & Chemical Co., Inc., N. Y. C.**

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**Large Stocks... Uniform High Quality... Immediate Shipment...** Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structurals, Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes and Fittings, Mechanical Tubing, Rivets, Bolts, Nuts, Washers, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.



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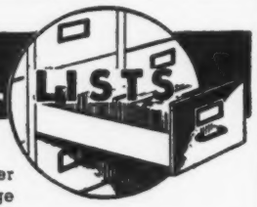

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four new Reading machines, and six examining machines.

**Full-Knit Hosiery Co.,** Burlington, N. C., in cooperation with the **Royal Dye Works,** Graham, N. C., have contracted for a new building to be jointly occupied. It will be 115x300 ft.; cost $85,000.

**Grace Hosiery Mills,** Burlington, N. C., have installed 12 new Scott & Williams half-hose machines.

**Hancock Hosiery Mills, Inc.,** formerly the Westmoreland plant of Interstate Hosiery Co., has opened as a cooperative at Hancock and Westmoreland Sts., Philadelphia.

**P. H. Hanes Knitting Co.,** Winston-Salem, N. C., has work well advanced on its seven-story brick and steel building for storage and shipping. It will be 150x150 ft., and cost $200,000.

**Holeproof Hosiery Co.,** Milwaukee, Wis., has installed new 26 and 28-section full-fashioned machines, the latter being single-unit. Older 18 and 20-section machines have been rebuilt to 24 and 26-section. Fluorescent lighting has been installed.

**Hosiery Distributors of America,** Folsom, N. J., has been formed by A. O. Kaplan for manufacture of full-fashioned hosiery on 18 Reading 39-gage machines. The company has taken over the plant formerly the Folsom Hosiery Mills, but recently idle.

**Infants' Socks, Inc.,** Reading, Pa., is completing modernization and improvement in former cotton warehouse at Eufaula, Ala., recently secured under lease, and will proceed with installation of equipment.

**Jackson County Mills,** Pascagoula, Miss., plans further expansion to bring the operating personnel to 1,000. It recently installed 45 knitting machines and 200 sewing machines additional to the original equipment.

**Massachusetts Textile Co.,** Fall River, Mass., is producing fancy sports hosiery under direction of Bernhard Altmann and Charles Askonas, who each has had more than 30 years in the field abroad. The machines have been brought from England or made here on English patents.

**Moers Hosiery Mills, Inc.,** Nashville, Tenn., recently formed, plans operation of a local mill. Company is headed by A. C. and O. A. Moers, and Alfred T. Levine.

**Nantex Mfg. Co.,** Greenwood, S. C., will complete an addition this month; 135 additional operatives will be employed.

**Pitman Hosiery Mills, Inc.,** Laconia, N. H., recently organized, has work under way on installation of eight new knitting machines and auxiliary equipment in former building of the Tetley Box Co. Eight additional Scott & Williams knitting machines have been purchased and will be installed later. Charles J. Pitman is president and treasurer.

**C. E. Rudisill** and his son, Boyd Rudisill, Vale, N. C., are constructing a new building to house a hosiery mill to be operated by them. Boyd Rudisill has been operating the Cook Hosiery Co. for some time, with seven machines.

**Sellers Hosiery Mills,** Burlington, N. C., have awarded contract to J. Frank Mitchell, Jr., Burlington, for a one-story addition.

**Sunbury** (Pa.) **Chamber Commerce** reports plans for full-fashioned mill at 7th and Market Sts., with 8 machines at the start increasing to 20.

**Weldrest Hosiery Co.,** Mt. Dennis, Ontario, will open a small branch in Farnham, Quebec.

**Wyatt Knitting Mill,** Sanford, N. C., is installing additional machinery.

### Processing Plant News

**Adams Silk Dyeing & Printing Co. of New Jersey,** Paterson, N. J., sold three plants to Associated Dyeing & Printing Co.—the Cramer & King, the Royal and the Colt and other property. It is understood that the Royal plant will be operated.

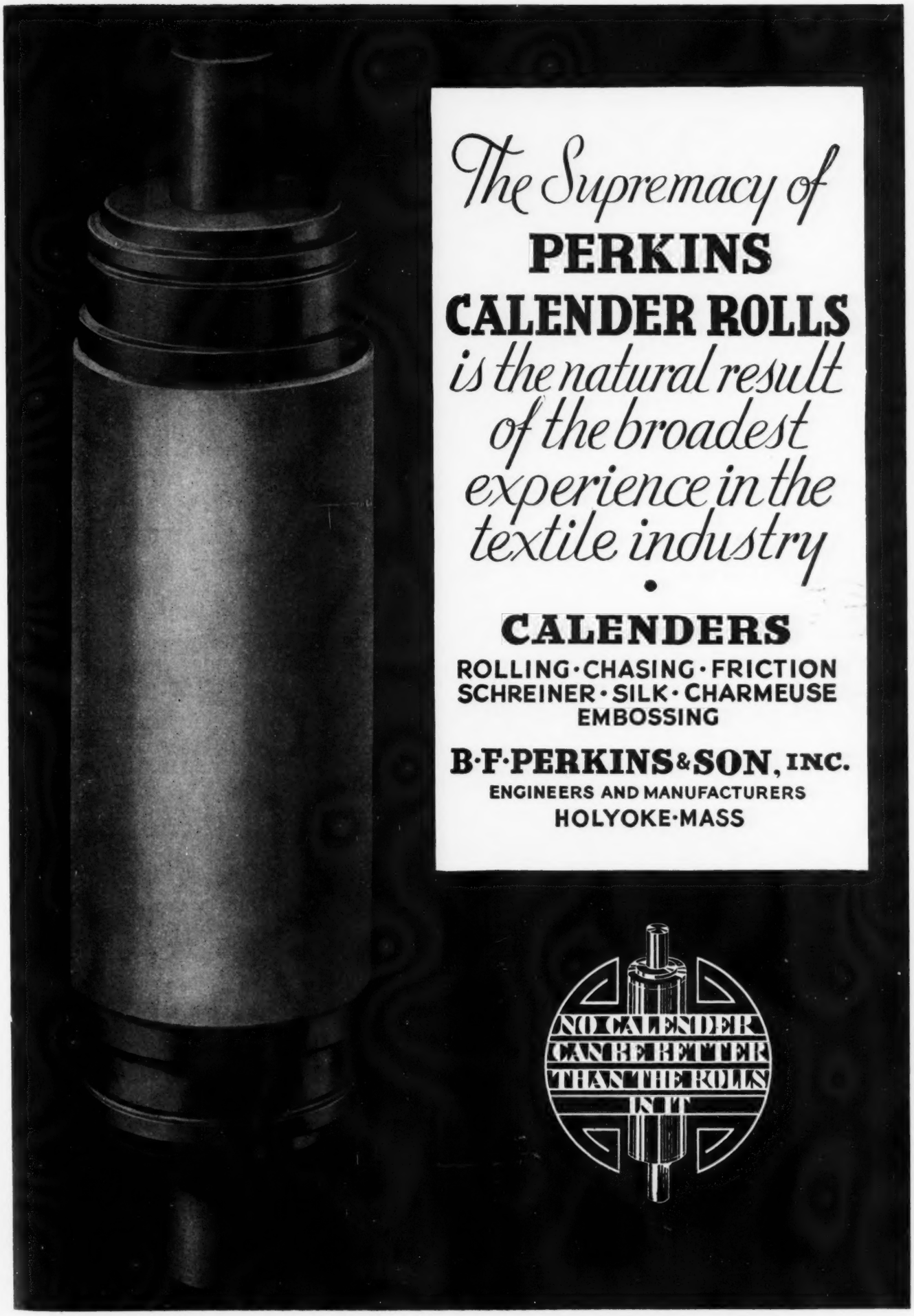
**American Finishing Co.,** Memphis, Tenn., will erect an office building, 40x100 ft. without windows.

**Blackstone Dye Works, Inc.,** Woonsocket, R. I., will build a one-story, 87x70 ft., brick addition.

**Hartsville** (S. C.) **Print & Dye Works** will reorganize under Section 77-B, Judge Frank M. Myers having signed the order.

**Rock Hill** (S. C.) **Printing & Finishing Co.** will receive additional water facilities as the result of the citizens voting to expend $65,000 to increase the water supply, so that the textile plant can expand and add 200 additional operatives to the pay roll.

**Sunbury Finishing Co., Inc.,** has been chartered in Sunbury, Pa., with a capital of $30,000, to operate a plant for dyeing and finishing woolens and rayons. Principals are Angelo Rento, Louis Wise and Max Shelov, with headquarters at 1422 North Front St.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is the natural result
of the broadest
experience in the
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ENGINEERS AND MANUFACTURERS
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NO CALENDER
CAN BE BETTER
THAN THE ROLLS
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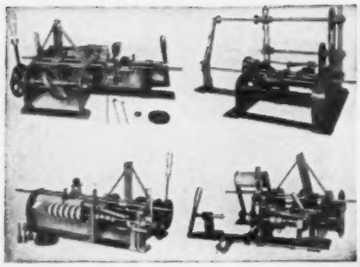
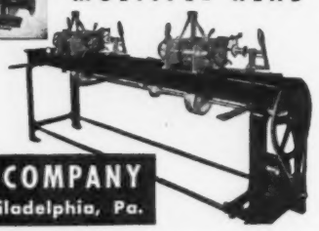


SPOOLING MACHINES

SINGLE END
DOUBLE END
CAM TRAVERSE
SCREW TRAVERSE

MULTIPLE HEAD



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*Makes colors brighter —*
**DRUMMOND SOAP**

√ Rinses easily and completely.
√ Saves scouring time and steam costs . . . Improves fulling and scouring operations.
√ Gives the softest feel and better handle.
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**NOVELTY-YARNS**
For
WEAVERS-KNITTERS
**MONTGOMERY**
WINDSOR LOCKS, CONN.
Designers and Spinners of Novelty Yarns

Styling
Textile
Machinery

*See page 6*


## NEWS ABOUT MEN

*(Concluded from page 100)*

**Harold J. Walter,** treasurer of the Uxbridge (Mass.) Worsted Co., was re-elected president of the Home Market Club at its 51st annual meeting Nov. 15. Other officers, also re-elected, include many textile manufacturers and textile machinery men.

**R. L. Stowe,** Gaston County textile executive, was tendered a testimonial dinner by the Gastonia Junior Chamber of Commerce, Dec. 5, in recognition of 25 years service with the Gaston County Board of Commissioners, for 18 of which Mr. Stowe has served as chairman. Talks were given by **Kay Dixon, J. H. Separk, R. D. Hall,** and **Rev. C. R. Bowles.**

**Charles E. Gravely,** formerly with the Draper Corp., Spartanburg, S. C., unit, has become textile engineer for Bemis Bag Co., Talladega, Ala.

**J. W. Brown,** formerly overseer of spinning at Roanoke Mills Co., No. 2, Roanoke Rapids, N. C., has accepted a similar position with Henderson (N. C.) Cotton Mills.

**T. C. Drew,** formerly superintendent of D. E. Converse Mfg. Co., Arcadia, S. C., has become superintendent of Mayfair Cotton Mills, Arcadia.

**M. D. Pittman** is now superintendent of the reorganized St. Pauls (N. C.) Cotton Mill.

**J. Wilson McArver,** formerly superintendent of Hampton Spinning Mills, Clover, S. C., has resigned.

**G. W. Johnson,** who has been superintendent of Bradford Mills, Prattville, Ala., has been transferred to a similar position with Marlboro Mills, McColl, S. C.

**F. L. Lee** has accepted a position in the designing department of Eagle & Phenix Mills, Columbus, Ga. He was graduated in textile engineering at the Alabama Polytechnic Institute, Auburn, Ala.

**B. P. Parks** has been promoted to overseer of weaving at Eva Jane Mills, unit of Avondale Mills, Sylacauga, Ala.

**M. D. Collins,** formerly of Swift Mfg. Co., Columbus, Ga., has become overseer of weaving at Bradford Mills, Prattville, Ala.

**C. L. Moody,** formerly of Mobile, Ala., has become overseer of weaving at Birmingham (Ala.) Textile Co.

**S. F. Burt** is now assistant superintendent of Avondale Mills, Pell City, Ala., having been promoted to this position.

**J. B. McGinnis,** formerly of Kosciusko, Miss., has become overseer of carding at Bradford Mills, Prattville, Ala.

**F. H. Inman,** formerly of Rockingham, N. C., has become overseer of carding at Clover (S. C.) Spinning Co.

**George Lee,** formerly of Kosciusko, Miss., has become overseer of carding at Birmingham (Ala.) Textile Co.

**Newt Rich,** formerly second hand in spinning at Avondale Mills, Pell City, Ala., has been promoted to overseer of the same department.

**J. E. Bostick,** formerly of Haleyville, Ala., has been transferred to Russellville, Ala., as superintendent of Alabama Mills.

**C. W. Hill,** assistant to the overseer of spinning at Saxon Mills, Spartanburg, S. C., has been promoted to overseer of spinning at the Chesnee, S. C., plant of the same company.

**R. D. Bunn,** superintendent of Henderson (N. C.) Cotton Mills, has been transferred to the superintendency of Harriett Cotton Mills, No. 1, Hendersonville.

**T. E. Stone** has resigned as overseer of weaving at Chadwick-Hoskins Co., No. 5 mills, Pineville, N. C., and has become overseer of weaving at the Chesnee (S. C.) Mills.

**Albert Carmen,** formerly overseer of weaving at Chesnee, S. C., plant of Saxon Mills, has become overseer of weaving at Cutter Mfg. Co., Rock Hill, S. C.

**T. W. Cooper** has resigned his position with Avondale Mills, Alexander City, Ala., and has become assistant to the overseer of spinning at Bemis Bag Co., Talladega, Ala. He was graduated from the textile engineering school of Alabama Polytechnic Institute, Auburn, Ala.

**Ralph Higgins,** overseer of spinning at Roanoke Mills No. 2, Roanoke Rapids, N. C., has resigned to return to a former position as carder and spinner at Pilot Cotton Mills, Raleigh, N. C.

**Earl Crenshaw** has accepted position of superintendent of Hampton Spinning Mills, Clover, S. C. He was formerly superintendent of carding at Lancaster, S. C., plant of Springs Cotton Mills.

MILL OPERATORS are amazed at the tremendously stepped-up hiding power of the new DULUX High-Hiding Mill White. They have found that many paint jobs which would normally require two coats can now be done with one.

And that proves that DULUX can save *you* time and money. You buy fewer gallons of paint . . . application costs are lower . . . one coat takes less time to apply than two . . . your plant is idle for a shorter time. In cases where the present finish is very poor, a priming undercoat may be necessary.

Whiter at the start, it stays whiter and is more durable—this new High-Hiding DULUX means long-run economy. It saves money on overhead because it needs *fewer* repaintings. Send in the coupon.

SEND FOR THIS FREE BOOK

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**HIGH-HIDING MILL WHITE**

E. I. du Pont de Nemours & Co. (Inc.), Dept. T129
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Please see that I get complete information about DULUX High-Hiding Mill White—and your new booklet.

Name .....

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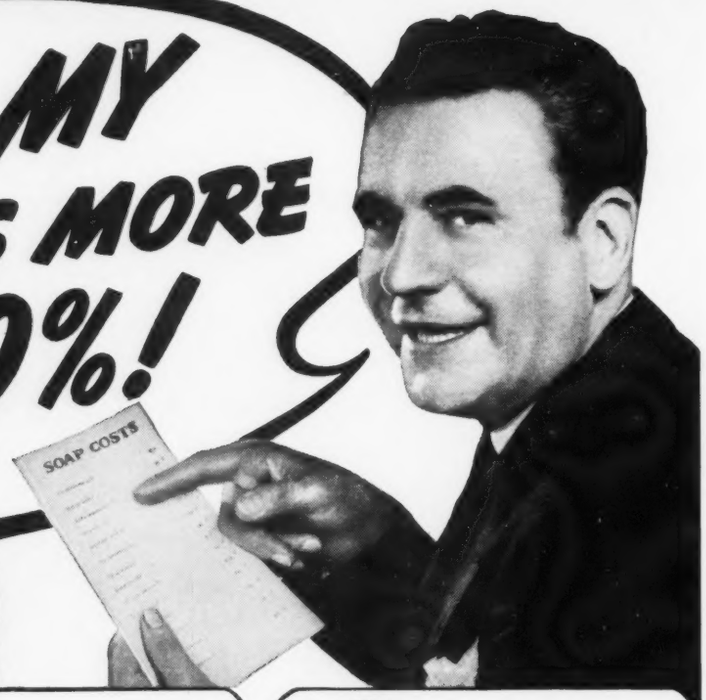
# I'VE CUT MY SOAP COSTS MORE THAN 30%!



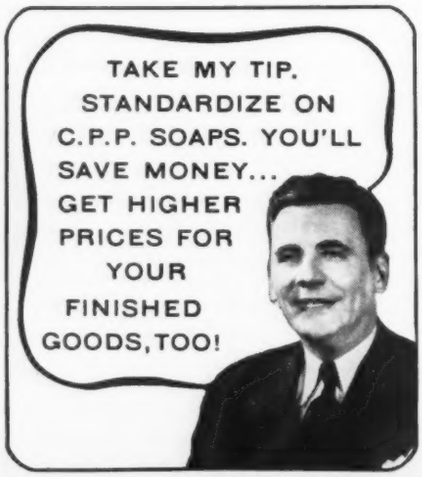

## READ WHAT C.P.P. SOAPS AND SERVICE DID FOR ME—

"I WAS HAVING TROUBLE with my dyeing process. My material always came out spotty . . . penetration was uneven. I figured it was due to poor cleansing—but didn't know how to improve it.

"THEN I REMEMBERED the Colgate-Palmolive-Peet FREE Consulting Service. I asked the C.P.P. man to help me. He said his technicians would check my processes . . . see what could be done.

"IN A SHORT TIME he was back again with new formulas based on Standard Colgate-Palmolive-Peet Soaps. He was sure they would wet out properly . . . eliminate 'specks.' I decided to test them!

"RESULTS WERE GRAND! Color was even . . . 'spots' were entirely eliminated, and I found I was actually saving more than 30% on my soap costs."




THIS is a true story. And it's but one of many cases where we have helped manufacturers in all branches of the textile industry.

No matter what *your* processing requirements may be, in the complete line of C.P.P. Products you'll find detergents and wetting agents to *exactly fit your needs.*

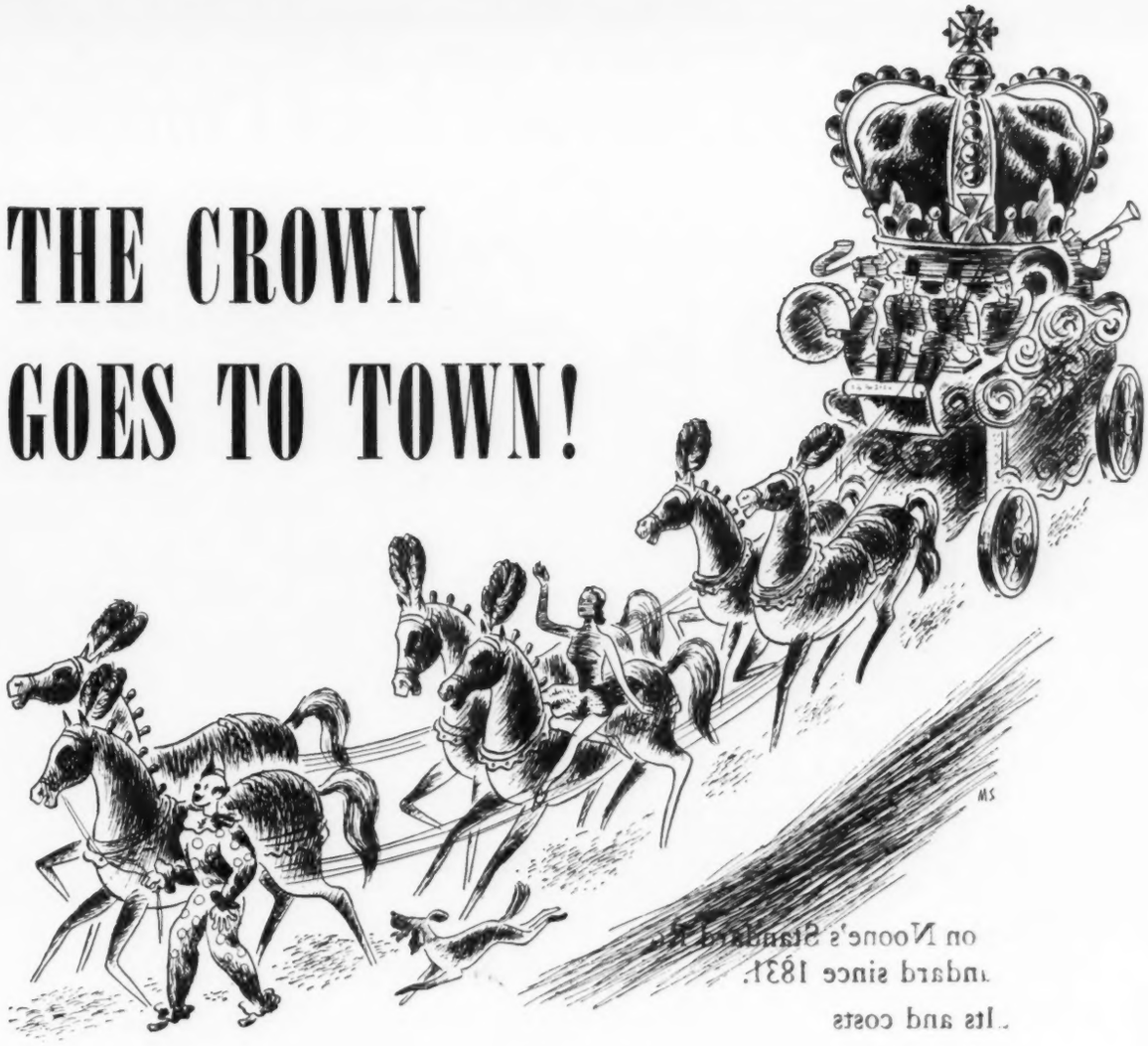
And remember: C.P.P. processing agents usually *cost less* to use than so-called "special" products because of the volume in which they are produced. Ask your C.P.P. representative for full information, or write to us. There's no obligation.

## COLGATE-PALMOLIVE-PEET CO.

INDUSTRIAL DEPT., JERSEY CITY, N. J.

KANSAS CITY, KANSAS JEFFERSONVILLE, IND. BERKELEY, CALIF.

# THE CROWN GOES TO TOWN!



**WITH** *18,893,732 Crown Tested Rayon consumer messages for the Fall alone.*

*18,893,732 consumer messages in such magazines as Vogue, Harper's Bazaar, Ladies' Home Journal, Good Housekeeping, Woman's Home Companion, McCall's, Mademoiselle.*

*18,893,732 consumer messages featuring Crown Tested Rayon merchandise capable of creating volume sales for you!*

***The Crown goes to town . . . .***

**you're on for a profitable ride when *you* climb on the Crown Tested bandwagon!**

**For every time you use Crown Rayon you enable your customers to capitalize on advertising for years past and months *present*, featuring the Crown Tested Symbol.* Advertising that drives home the story of Crown Tested Quality . . . constantly repeating that rayon merchandise bearing the Crown Tested Symbol has been check-tested and approved for various points of consumer satisfaction by the official analytical laboratory of the National Retail Dry Goods Association . . . giving positive assurance of dollar-for-dollar value!**

***(*The merchandise must pass various tests.*)**

## AMERICAN VISCOSE CORPORATION

*200 Madison Ave., New York • The World's Largest Producer of Rayon Yarn*

***The First Name in Rayon . . . The First in Tested Quality***

CROWN TESTED AND APPROVED CROWN RAYON

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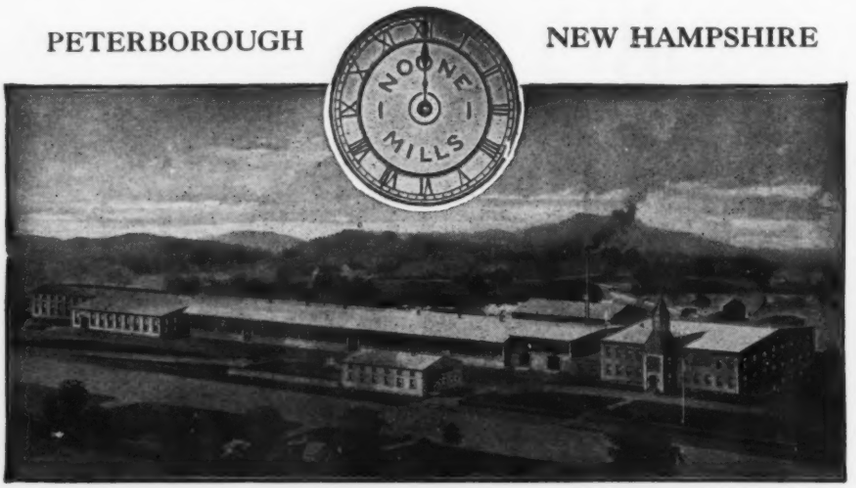
American Viscose Corp.

# The Joseph Noone's Sons Company

A. Erland Goyette, Proprietor

PETERBOROUGH NEW HAMPSHIRE




*Established* 1831

# Noone's Standard Roller Cloths

Insist on Noone's Standard Roller Cloths for your Spinning Rolls. Noone's have been Standard since 1831.

Results and costs are what count most.

Use Noone's Roller Cloth and be assured of a Strong Round uniform yarn, the best obtainable. Eventual cost, less than any other covering.

Good spinning can always be obtained when Noone's Roller Cloth is used, as it is the properly built Cloth,—has the correct cushion and consistency, and uniform gauge.

Noone's is best by test.

Many materials have been used for Spinning Roll Covering in years past, but have eventually been discarded in favor of the dependable Woolen Roller Cloth and Leather.

Do not be misled, put your faith in the good Old American Products: Noone's Roller Cloth and leather. If in doubt, allow us to demonstrate the superiority of our Roller Cloth and a leather cot.

**Use Noone's Roller Cloths, Noone's Slasher Cloths, Noone's Clearer Cloths.**

Noone's are the Pioneers in Mechanical Cloth Manufacturing in America.

WILLIAM R. NOONE & COMPANY

Selling Agents

ARNOLD T. MALONE, Manager

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# "WE'VE PEPPED UP PRODUCTION

## since we adopted

# GULF'S HIGHER QUALITY OILS!..

## *. . . and still keep the maintenance-cost curve on the decline,"*

**. . . SAY LEADING PLANT OPERATORS.**

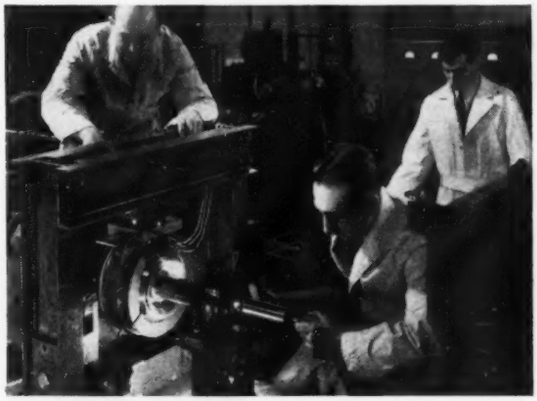
"WE'RE being rewarded for the sound lubrication policy we adopted last year," says this operating official. "Now with production stepped up, we're having no mechanical difficulties and are enjoying still lower costs for maintenance. It has paid us to put the Gulf engineer's recommendations into practice."

*Without further delay,* you can put into operation in your plant a modern lubrication procedure that will insure you against the hazards of mechanical difficulties and losses which often accompany increased production schedules.

Ask the Gulf engineer who calls on you to work with your operating men toward the attainment of more efficient lubrication for all your equipment. His recommendations are based on sound knowledge and broad experience in the lubrication of equipment similar to yours. Gulf Oil Corporation, Gulf Refining Company, Pittsburgh, Pa.

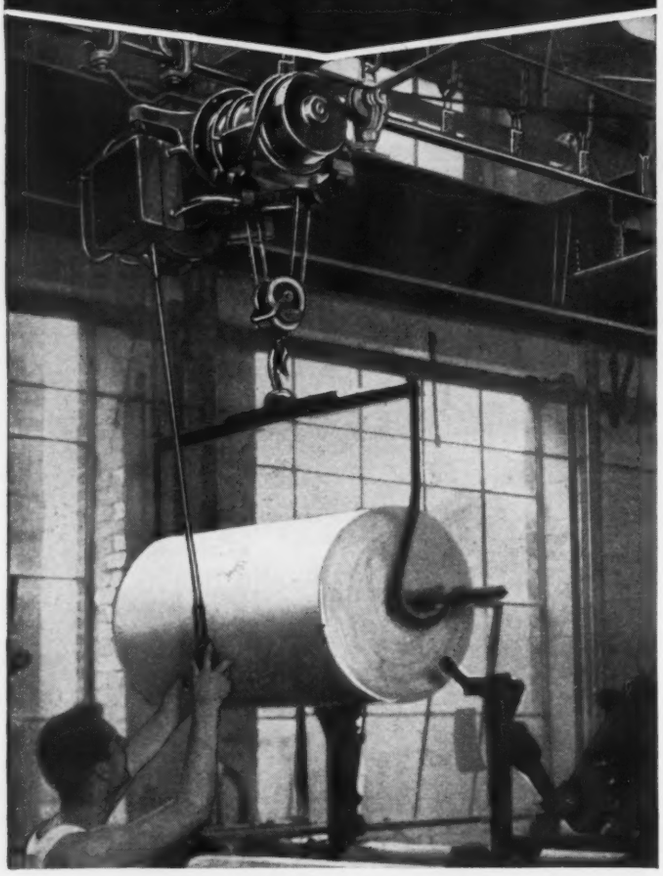
GULF INDUSTRIAL LUBRICATION

### To Maintain Quality . . .



. . . GULF RESEARCH MEN continually test lubricants with a wide variety of specially designed equipment. Oils and greases are subjected to a wider range of operating conditions than are encountered in actual service. Thus Gulf's engineers are able to recommend lubricants which not only meet the prevailing conditions, but provide an *extra margin of safety!*

# P&H HEVI-LIFT HOISTS



## Handle It "THRU THE AIR"
### *For Speed . . . For Low Cost*

When you handle it "thru the air" with P&H Hoists, materials move easier, faster and without damage; aisle congestion is relieved. Many mills are modernizing with P&H Hoists for swift, easy movement of bales, beams, bolts and baskets—as well as other equipment and supplies.

**This Book of Hoist Ideas . . . *FREE!***

. . . Fully illustrated with dozens of money-saving suggestions developed by P&H Engineers. Ask us to send your copy of Bulletin H-5. The Harnischfeger Corporation, 4519 West National Ave., Milwaukee, Wisconsin.

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*Wherever Light Determines PRODUCTION EFFICIENCY—*

**FLEX-O-LITE**

TRADE MARK REG.

**FLUORESCENT**
**INDUSTRIAL LIGHTING UNITS**

## *Are NEEDED!*

***Wherever eye-strain fatigue increases production costs, watch the effects of this new WARM-WHITE light.***

Each self-contained Flex-O-Lite Unit is simply installed, and with the flick of a switch instantly radiates a warm, pleasing light. A light that penetrates without objectionable glare, and casts no shadows because diffused from a specially designed Flex-O-Lite TUBULAR Lamp, manufactured by the FLEX-O-LITE COMPANY *exclusively*.

Flex-O-Lite Units are available in either Single or Double-Lamp type. Single-Lamp Unit delivers 40 ft. candles at 4 feet using but 110 watts. Double-Lamp Unit delivers 75 ft. candles at 4 feet using but 200 watts. Power Factor over 90%. Lumens per watt—40. Lamp Life—5,000 hours. Your satisfaction guaranteed with every Unit, or your money refunded.

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# A COMPLETE TECHNICAL SERVICE FROM BOIL-OFF TO FINISH

NEW fibers...new finishes...new fabrics present new problems to the Textile Industry. The products of the General Dyestuff Corporation in addition to a vast range of dyestuffs for the dyeing and printing of every fiber and combination of fibers include a comprehensive range of scouring, wetting and penetrating agents, emulsifiers, dyeing auxiliaries, softeners, water repellants and permanent moth proofing agents. To keep in step with changing demand calls for advanced technical knowledge and practical skill. The Technical Service Department of the General Dyestuff Corporation is equipped with a personnel and laboratory facilities to give you efficient assistance in economically solving the problems of boil-off, dyeing, printing and finishing. Our Technical Staff are recognized authorities in their respective fields.

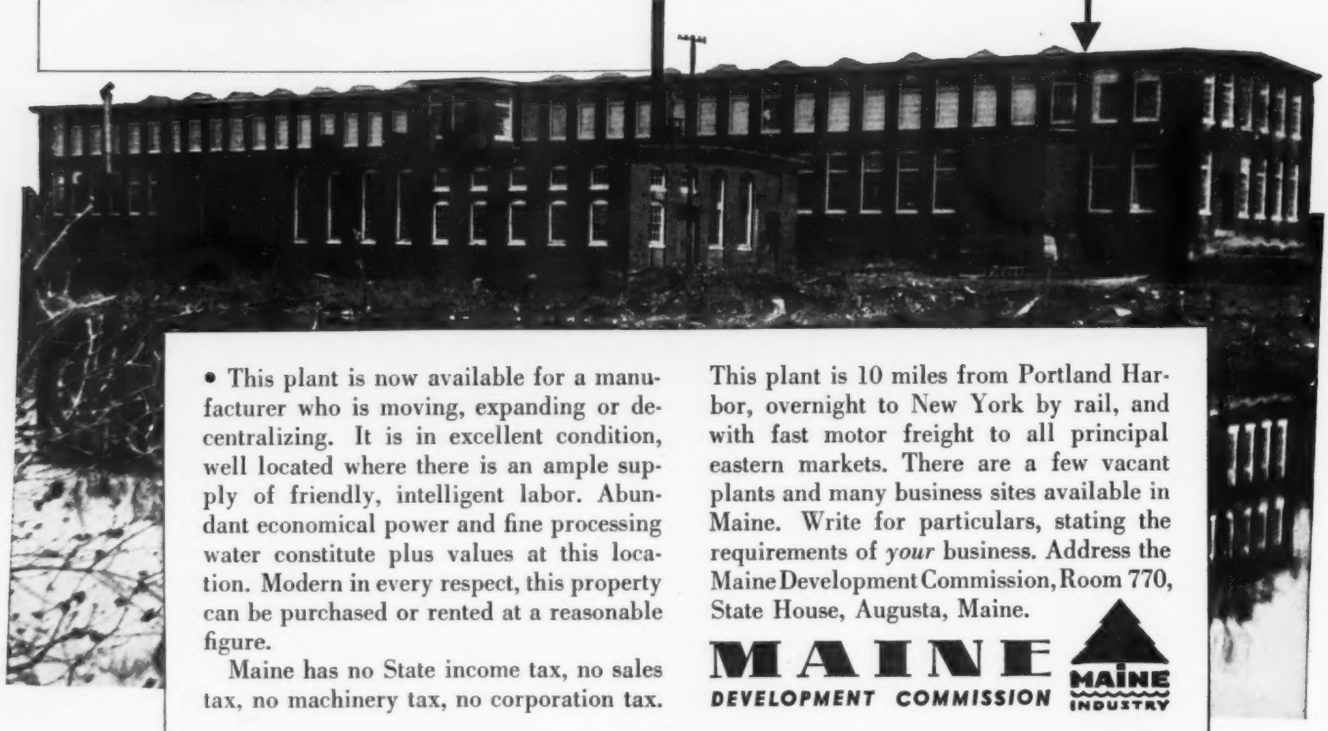
We offer you a Technical Service from the greige goods to the finished fabric.

# GENERAL DYESTUFF CORPORATION

435 HUDSON STREET, NEW YORK, N. Y.

Boston, Mass. Providence, R. I. Philadelphia, Pa. Charlotte, N. C. Chicago, Ill. San Francisco, Calif.

# AN IDEAL PLANT FOR YOU



• This plant is now available for a manufacturer who is moving, expanding or decentralizing. It is in excellent condition, well located where there is an ample supply of friendly, intelligent labor. Abundant economical power and fine processing water constitute plus values at this location. Modern in every respect, this property can be purchased or rented at a reasonable figure.

Maine has no State income tax, no sales tax, no machinery tax, no corporation tax.

This plant is 10 miles from Portland Harbor, overnight to New York by rail, and with fast motor freight to all principal eastern markets. There are a few vacant plants and many business sites available in Maine. Write for particulars, stating the requirements of *your* business. Address the Maine Development Commission, Room 770, State House, Augusta, Maine.

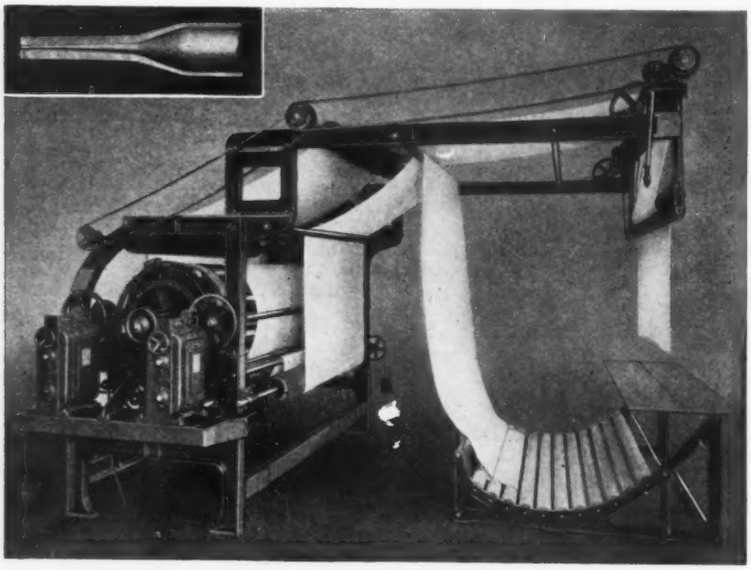
**MAINE**
**DEVELOPMENT COMMISSION**
MAINE INDUSTRY

# To Napping Energy Control goes the credit for a greater variety of nap

» » « «

Below in the inset, is illustrated one of the new mechanical features of the Gessner Napper — a cross section of Gessner's one piece worker roll with the journals swedged from the body of the roll itself.

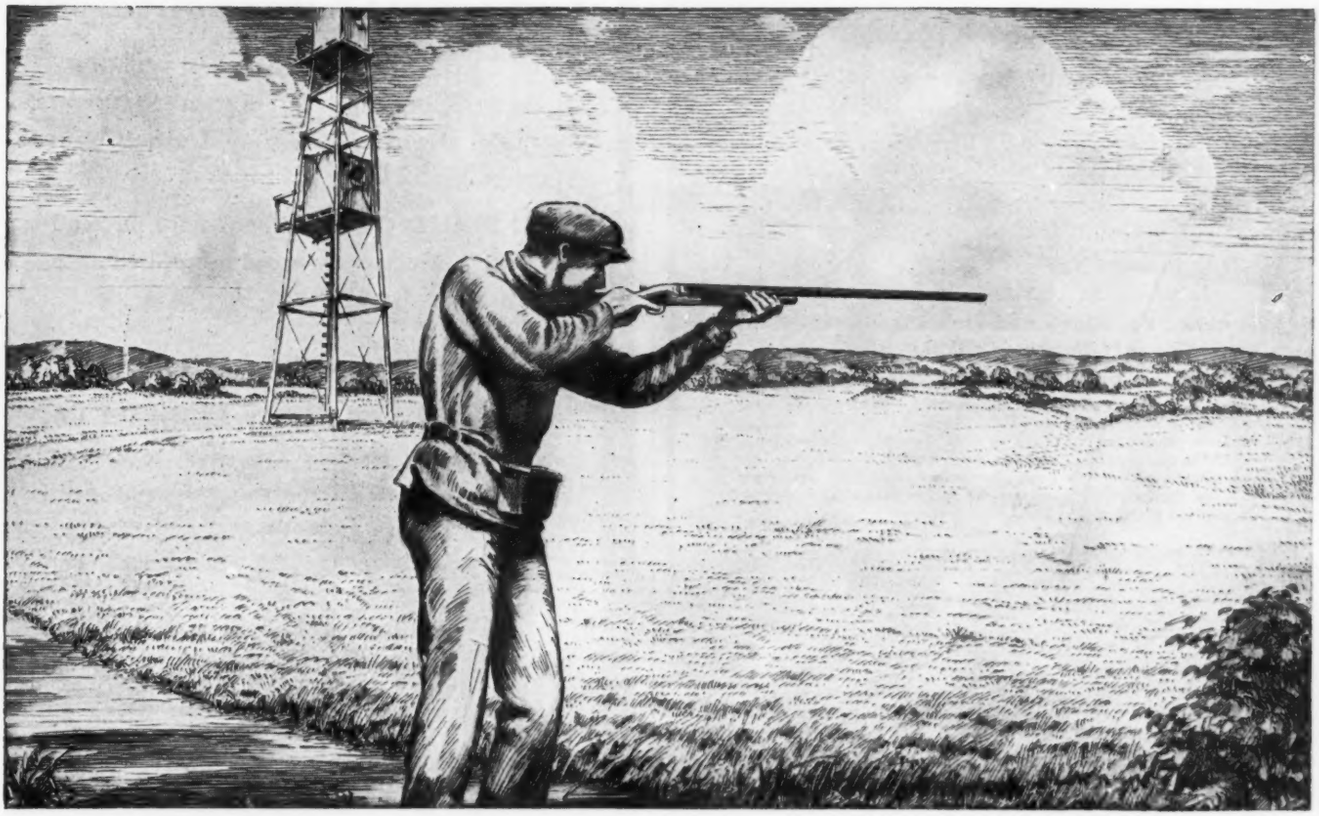
Gessner's New Napping Energy Control is responsible for the marked increase in the number of mills which now rely on Gessner Nappers. You will find three proven reasons why you should investigate Gessner Nappers for your own napping: 1. Greater range of Napping Energy. 2. Smoother and more positive Napping Energy. 3. A finer and more accurate adjustment of Napping Energy.



**IMPROVED CLOTH FINISHING MACHINERY**

**VACUUM EXTRACTORS, GIGS, SCUTCHING MACHINES, SPOT PROOFING MACHINES, BRUSHES, DECATING MACHINES, PRESSES, DECATING APRONS, NAPPERS**

**DAVID GESSNER**
*Company*
**Worcester, Massachusetts**



# A Vital Step In The Manufacture Of Smokeless Powder

Smokeless nitrocellulose powder has largely replaced the black potassium nitrate powders for shotgun shells and rifle cartridges. In the preparation of nitrocellulose for this purpose, caustic soda plays a vital part. Before the cellulose can be converted into its nitro compound the fats and oils from the raw cotton are removed by the use of caustic soda in the ratio of about 2% to the weight of the raw cotton.

Because the function of alkalies in manufacturing industries is seldom recognized in the finished product, the average layman has little conception of the tremendous tonnage of caustic soda, soda ash, liquid chlorine and bicarbonate of soda used in manufacturing such important commodities as chemicals, paper, soap, textiles, glass, foods and drugs. Neither does he realize how numerous and how varied are the uses made of these alkalies. Some of the more or less obscure and minor uses have been depicted in this series of advertisements here concluded.

We have taken this novel way of bringing the name COLUMBIA to the attention of executives, technicians and purchasing heads with the hope that the high quality of COLUMBIA products and the dependability of COLUMBIA service will be remembered through the year and years that lie ahead.

*We shall be glad to send you free of charge a large size reproduction of above illustration, "The Skeet Shooter" suitable for framing, if requested on business letterhead and naming magazine in which you saw this advertisement.*

# COLUMBIA

SODA ASH • CAUSTIC SODA • SODIUM BICARBONATE • • •
MODIFIED SODAS • LIQUID CHLORINE • CALCIUM CHLORIDE

**THE COLUMBIA ALKALI CORPORATION**
**EXECUTIVE SALES OFFICES: 30 ROCKEFELLER PLAZA, NEW YORK, N. Y.**
Plant: Barberton, Ohio
CHICAGO . BOSTON . ST. LOUIS . PITTSBURGH . CINCINNATI . CLEVELAND . MINNEAPOLIS . PHILADELPHIA

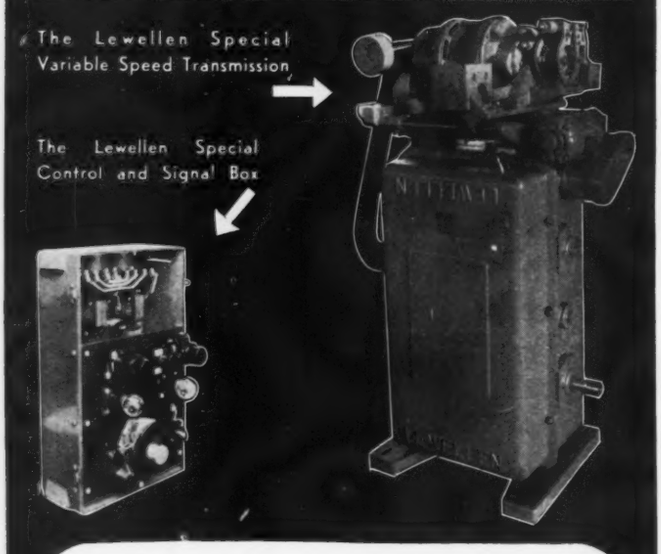
PROBLEM

## The Case of Maintaining Uniform Tension in Winding Strip Metal

*from the files of Lewellen Engineers*

SOLUTION: *A specially designed Lewellen Variable Speed Transmission with Automatic Control (illustrated below).*

RESULT: The winding reel starts at its highest speed. As the strip of material on the spool increases in diameter, the control accurately reduces the speed of the reel to maintain uniform tension on the strip as it is wound. *Now, get this!* After the reel has filled and the unit stopped for removing and replacing it with a new core, the control *reverses its position* to allow the new reel to start again at the maximum speed and decrease in speed as it is filled.




THIS PROBLEM is one of hundreds that come to Lewellen each year. Lewellen Engineers are constantly finding better ways to control production machines profitably. Often, results are *amazing.*

You appreciate the importance of the proper application of modern speed control to your production machines. *So, why not call a Lewellen Engineer today?* Whether your needs are small or large, the vast experience acquired by Lewellen Engineers over a period of more than 40 years is yours for the asking.

LEWELLEN MANUFACTURING CO., COLUMBUS, INDIANA

**Lewellen knows speed control**

•

# LEWELLEN

*Variable Speed* { TRANSMISSIONS / MOTOR PULLEYS

# Low Cost LOOM Lubrication

NON-FLUID OIL prevents "oil spot" loss from dripping, leaking oil that gets on warps and woven goods—and from "cam spatters."

NON-FLUID OIL remains where put and lubricates effectively—need be applied only one-third as often.

*Write for free testing sample and instructive bulletin*

**New York & New Jersey Lubricant Co.**

***Main Office:* 292 Madison Ave., New York, N. Y.**

Southern Agent, Falls L. Thomason, Charlotte, N. C.

**WAREHOUSES**

**Chicago, Ill.**
**Providence, R.I.**
**St. Louis, Mo.**
**Detroit, Mich.**
**Atlanta, Ga.**
**Charlotte, N. C.**
**Greenville, S. C.**

TRADE MARK REGISTERED
NON-FLUID OIL
IN U.S. PAT. OFFICE & FOREIGN COUNTRIES

**MODERN TEXTILE LUBRICANT**

*Better Lubrication at Less Cost per Month*

GUARANTEED in weight, temper and style. Back of this guarantee is a 40-year experience, skilled workmanship, specially drawn stock, and an enormous amount of research and experiment in high speed traveler manufacture. Write for samples and prices.

## The Dary Ring Traveler Co.

**Taunton, Mass.**

B. G. DARY, Treas.
John E. Humphries, Box 843, Greenville, S. C.
John H. O'Neill, Box 720, Atlanta, Ga.

# GENERAL CHEMICAL
# GLAUBER'S SALT
## Anhydrous

General Chemical Glauber's Salt, Anhydrous, analyzes a minimum of 99.5% sodium sulfate. Because of the practical purity and concentration of this grade, its use is preferred by many textile users since it offers definite economies in shipping costs.

- Barrels, net weight—approximately 430 pounds.
- Bags, net weight—approximately 150, 200 and 220 pounds.

—— also ——

## GLAUBER'S SALT, CRYSTAL

in standard and needle crystal grades.

**GENERAL CHEMICAL COMPANY**

*Executive Offices:* 40 RECTOR STREET, NEW YORK, N. Y.

*Sales Offices:* Atlanta • Baltimore • Boston • Buffalo • Charlotte (N. C.) • Chicago • Cleveland Denver • Houston • Kansas City • Los Angeles • Milwaukee • Minneapolis • Montezuma (Ga.) Philadelphia • Pittsburgh • Providence (R. I.) • San Francisco • St. Louis • Utica (N. Y.) Wenatchee (Wash.) • Yakima (Wash.)

In Canada: The Nichols Chemical Company, Limited • Montreal • Toronto • Vancouver

# PROCTOR DRYERS

*for*

ACETATE
SKEIN YARN
DYED COTTON
RAYON STAPLE
PACKAGE YARN
COTTON LINTERS
DYED WOOL STOCK
RAYON PIECE GOODS
NAPTHOL DYED PIECE GOODS
ALGOSOL DYED PIECE GOODS
CARBONIZING WOOL CLOTH
MERCERIZED WARPS
DYED WARPS
PRINT GOODS
KNIT GOODS
CARPETS
FELTS

ALL PROCTOR DRYERS CARRY THE UNCONDITIONAL GUARANTEE OF

PROCTOR & SCHWARTZ, INC.
PHILADELPHIA
*The World's Largest Builders of Drying Machinery*

*Protects* TWISTERS

Lubricates and Prevents Rust on Spindle Bolsters and Rollers

"3-IN-ONE" OIL solves many problems of lubrication and protection in the small but vitally important operating parts of intricate mechanisms used in the textile industry. It is a scientific blend of the finest oils obtainable—especially suitable for use on shuttles, needles, reeds. Helps attain trouble-free operation at low cost! Write us for special prices to textile mills.

THE A. S. BOYLE COMPANY
DISTRIBUTORS
JERSEY CITY NEW JERSEY

"3-IN-ONE" OIL

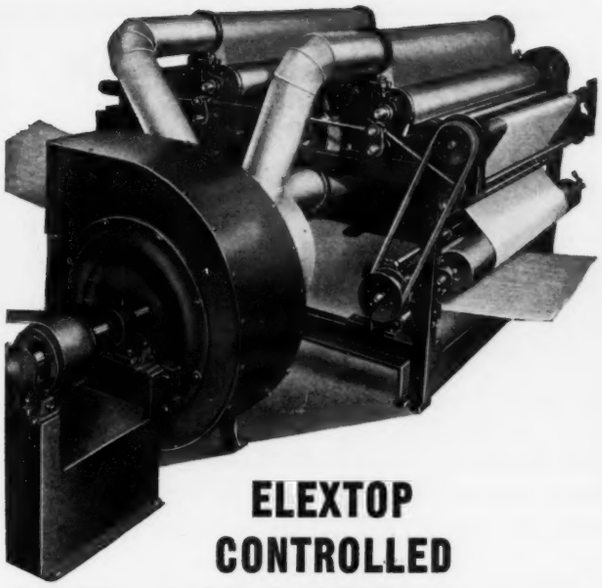


PEQUOT
REG. U.S. PAT. OFF.
SHEETS AND PILLOW CASES

The Most Popular Sheets in America

Made Stronger—Wear Longer
Sell Faster

PEQUOT MILLS
Salem, Mass.



## ELEXTOP CONTROLLED DIXIE RAYON & COTTON SHEAR

HIGH SPEED STEEL KNIVES
DOUBLE ACTING SUCTION
DEPENDABLE SEAM PASSING ELEXTOP
PERFECTED CLOTH CONTROL
BETTER TRIMMING AT HIGHER CLOTH SPEEDS
UNLIMITED BLADE LIFE WITHOUT GRINDING
NO OIL SWABS TO STAIN FABRICS
*Free Trial Installation*

**PARKS & WOOLSON MACHINE CO.**
SPRINGFIELD, VERMONT

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# Sterling Ring Travelers

## COSTS

The changes in hours and wages added to the higher prices means much tougher competition.

The *correct* Traveler will help reduce expenses.

*Call our Southern representatives*

GEORGE W. WALKER
Box 1894, Greenville, S. C.

D. J. QUILLEN
Box 443, Spartanburg, S. C.

**STERLING RING TRAVELER CO.**
**FALL RIVER, MASS.**

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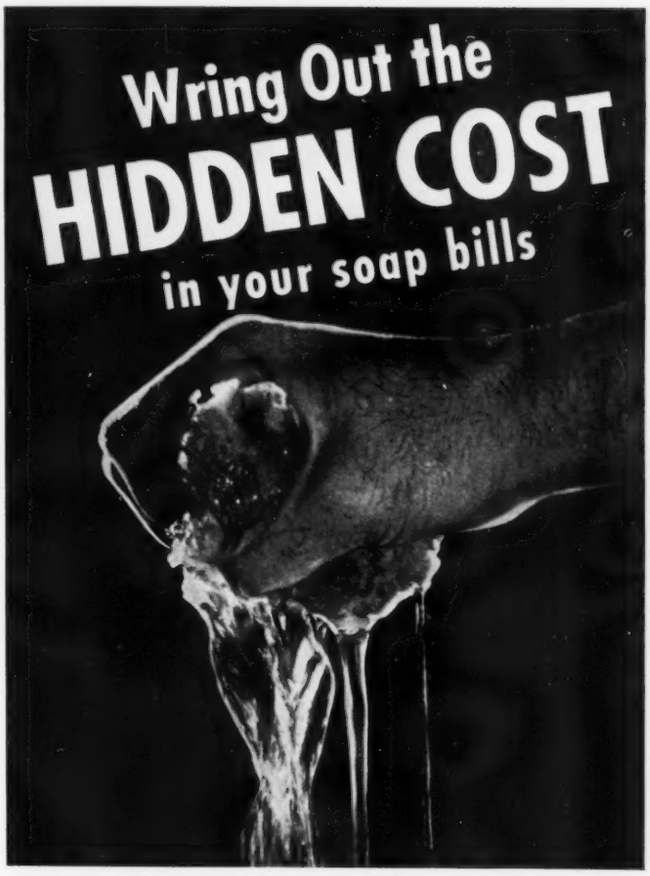



● For years you have been paying a big "hidden cost" in your soap bills. Now Nopco shows you how to squeeze it out.

## "NOPCO 99% SOAP" Gives up to 10% More Soap

Nopco 99% soaps represent an entirely new departure in detergent soap manufacture. Whereas soaps made by ordinary manufacture may contain from 8% to 12% moisture and fillers, the fully patented new Nopco process brings you an actual *guaranteed* 99% soap. What's more, these unique soaps contain no filler whatsoever!

Here is a clear bonus of from 7 to 12 lbs. of soap in every 100 lb. bag. And without extra cost!

Prove to yourself the substantial savings made possible by these better quality Nopco soaps. Write for a sample, or better still, order enough for a trial run.

**NATIONAL OIL PRODUCTS CO.**
**Harrison, N. J.**

BOSTON • CEDARTOWN, GA. • CHICAGO • SAN FRANCISCO

NOPCO

NATIONAL OIL PRODUCTS CO.
Harrison, N. J.

I want to save money. Please send me complete data and costs on Nopco concentrated soaps.

Name .....

Company .....

Address .....

City ..... State .....

T-12

## Like old friends they wear well

DIAMOND FINISH rings are the product of 66 years of Specialization by the world's largest ring plant. To a great many mill men, the diamond trademark is an old friend, representing rings that can be depended upon to wear long and well. For the ultimate in ring value, get acquainted with our high-polish finish and with our various exclusive designs (Automatic Oil-lubricated, Curved Web, Multiple-groove Grease Ring, etc.).

WE MAKE ALL TYPES OF RING HOLDERS

**WHITINSVILLE (MASS.)**

**SPINNING** DIAMOND FINISH **RING CO.**

*Makers of Spinning and Twister Rings since 1873*

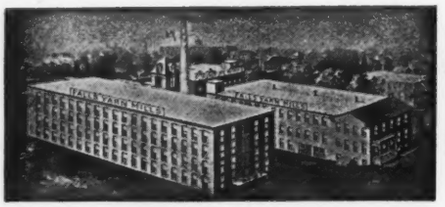
Southern Representative: H. ROSS BROCK, Lafayette, Georgia
Mid-West Representative: ALBERT R. BREEN, 80 E. Jackson Blvd., Chicago

**OSCAR HEINEMAN CORPORATION**

**RAW & THROWN SILK**

**ARMITAGE, FAIRFIELD and WASHTENAW AVENUES, CHICAGO**

**FALLS YARN MILLS**
WOONSOCKET, R. I.
*Incorporated 1904*



Fine Woolen and Merino Yarns

SELL DIRECT

Philadelphia
H. R. Shirley, Packard Bldg.

Chicago
O. J. Caron, 222 W. Adams St.

THOS. WOLSTENHOLME SONS & CO. INC.
3300 Frankford Avenue
Philadelphia, Pa.

## Yarns for all purposes

French and English Spun Worsted
French Spun Zephyr
French Spun Merino

*Representatives:—*
BOSTON—Perkins & Boland, Inc., 99 Chauncy St.
LOS ANGELES—Arthur Bone, 4436 Worth St.
CHICAGO—C. F. Peffer, 222 W. Adams St.

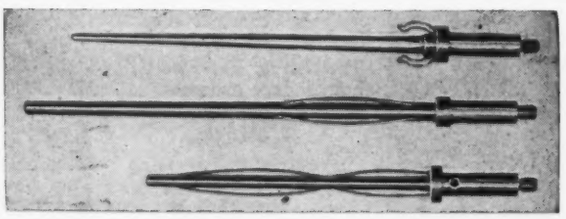
**THE OLDEST AND LARGEST**
MANUFACTURER OF
**Ring Spinning and Twister Travelers**

In the UNITED STATES
**American • Hicks • Wilson**
**United States Standard**
**Wentworth Double Duty and Gravity Travelers**

**MAKE STRONGER YARN**

Write Us

**National Ring Traveler Company**
PHILIP C. WENTWORTH, *Treas.*
Providence, R. I. Charlotte, N. C.



The above cut shows three types of Cop and Quill Spindles which we make for the silk trade.

Cop and Quill Spindles are made up to your individual requirements, according to size and type, to correctly fit your cops and quills.

The spindle on the bottom is equipped with an adjustable collar. By moving this collar in or out on the spindle it is possible for you to use, within certain limits, quills of different lengths.

You can save money by buying your cop and quill spindles from us. Our prices are right and our workmanship and materials are the best. Try us for your next order.

**Wayne Mfg. Co., Honesdale, Pa.**

# MOHAIR WORSTED
AND
# WOOLEN YARNS

COLLINS & AIKMAN CORPORATION

PERCY A. LEGGE *Sales Agent*

**New York • Philadelphia • Boston**

# RAYON TOPS

**Standard Grades — Lustrous — Delustred—Superfine**

Rayon Noils . . Staple Fibre

ANDREW K. HENRY

158 Summer St. Boston, Mass.

# MURDOCK Bobbin Holders

Our latest patterned holder is built with heavy lugs with a cup washer which gives greater strength for holding automatic bobbins.

**Automatic Bobbin**

also the Regular Filling Bobbin having 1 3/16 inch head. If you are using automatic bobbins write for sample. Write us regarding all matters pertaining to bobbin holders, as we make many kinds, and are sure we can be of help to you.

MURDOCK & GEB CO., Franklin, Mass.

**Manufacturers of Bobbin Holders for Over Thirty Years**

# JACQUARD CARD MACHINERY

Piano Machines, Lacers
Repeaters

JOHN ROYLE & SONS
PATERSON N.J.

Established in Paterson since 1855

# NEW "Hurricane" Dryers PAY FOR THEMSELVES!

Facts and figures quoted by many of America's outstanding textile mills and finishing plants prove that "Hurricane" Dryers and Conditioning Equipment are helping to pare costs to a remarkable degree—cutting labor and operating expense 50 to 75%!

These efficient, High-Speed machines — backed by 40 years of dryer-building experience—will guarantee your meeting the most advanced pace of present-day production schedules. One "Hurricane" Dryer usually does the work of 3 or 4 old-style machines!

• • •

Actual TESTS conducted in your own plant will prove these savings to your satisfaction. No obligations. Write us today!

AUTOMATIC SKEIN YARN DRYER

NEW STOCK DRYER

**ALSO** NEW Hi-Speed TENTER and LOOP Dryers
NEW Hi-Speed VACUUM Extractors
Cloth CARBONIZING Equipment

THE PHILADELPHIA DRYING MACHINERY CO.
3351 Stokley Street, Philadelphia, Pa.
*DRYERS for ALL Textiles from Raw Stock to Finished Fabrics*

# COTTON WARPS

## Cotton Yarn and Warps . . Single or Ply . . White or Colored . . Carded . . Combed

Novelty yarns—of cotton, worsted, wool, mohair, rayon, silk—in all fashionable combinations and effects and in many original effects. Write for samples.

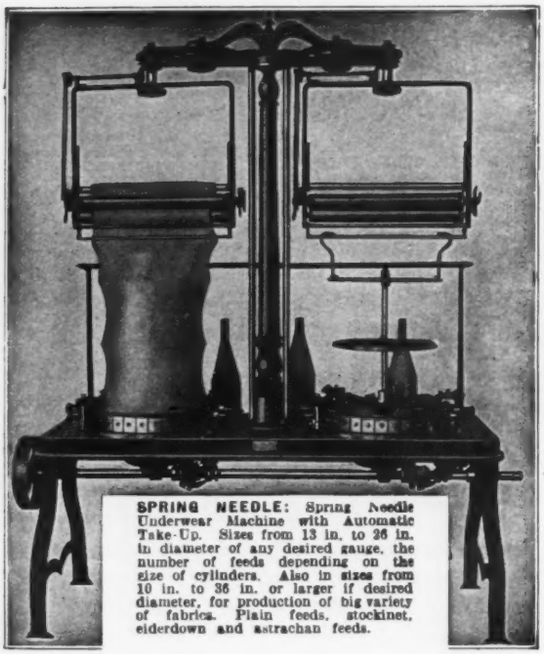
*Sell Direct*

Dana Warp Mills . . Westbrook, Maine

# CRANE

## KNITTING MACHINES

**meet the need for Speed — for Quality and Low Cost**



**SPRING NEEDLE:** Spring Needle Underwear Machine with Automatic Take-Up. Sizes from 13 in. to 26 in. in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also in sizes from 10 in. to 36 in. or larger if desired diameter, for production of big variety of fabrics. Plain feeds, stockinet, elderdown and astrachan feeds.

CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is *versatility* . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are Patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

*Let us tell you why —and how . . . just* ***WRITE***

**CRANE** Improved Automatic 3 Colored

Improved Automatic 3 Colored Plain Stripes. Made in sizes from 7⅝ in. to 20⅝ in. inclusive, of any desired gauge. Measurements are back to back of cylinder needles. Knit fabrics for bathing suits, theatricals, athletic goods, Crawford stop motion applied when requested.

1870 **CRANE** 1939

**MANUFACTURING CO.**
**LAKEPORT, N. H.**

Spring Latch Needle
**KNITTING MACHINERY**

---

**Keep Yourself "IN THE MONEY"**

# CIDEGA

**The ORIGINAL Knitting Loom**

**KNIT FASTER!**

The Versatility and Speed of Cidega's—the ORIGINAL All-Purpose Loom—will keep you "in the money" the year 'round. Quality results on rayon, cotton, silk, wool, angora, chenille, beads, cellophane, gimp, artificial straw, twisted cords, etc. Send for free folder—NOW!

**CIDEGA MACHINE SHOP, INC.**
**141 W. 20TH ST. NEW YORK, N. Y.**

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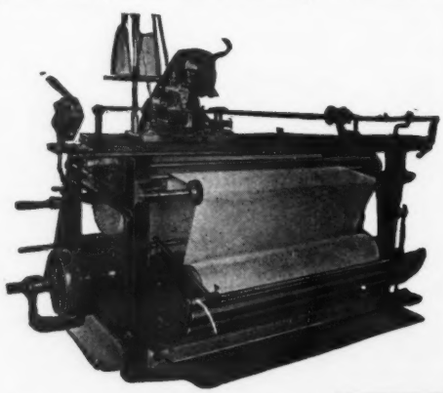
# NEW *Dinsmore*

**Opening, Sewing and Re-rolling Machine**



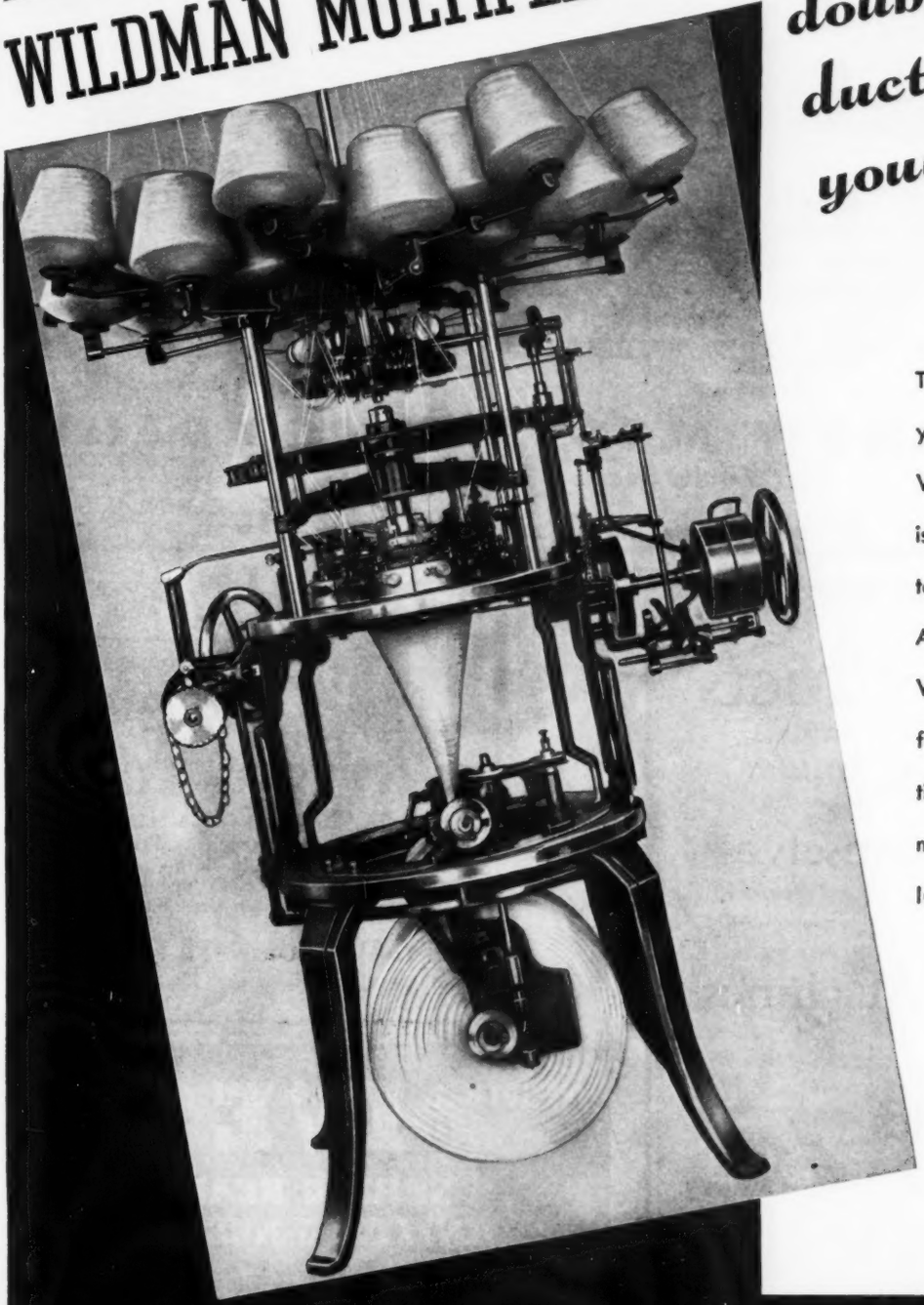
SHOWING the application of the Merrow Butted Seaming Head to our No. 4 Opening, Sewing and Re-rolling Machine . . . Produces a strong, flat butt seam on cottton, silk or other piece goods . . . trims off waste edges of goods just in advance of stitching operation . . . The Merrow Butted Seaming Head can be applied to your present machine . . . *write for estimate of cost.*

**DINSMORE MFG. CO.**

See Also Textile World Year Book and Catalog

SALEM, MASS.

# WILDMAN MULTIPLE FEED RIB MACHINE . . . *doubles the productive value of your floor space*



The floor space in your plant costs you a certain sum per square foot. Whether that be little or much, it is surely a step in sound economics to make every square foot TWICE AS PRODUCTIVE. That's what this Wildman 16-feed machine does for you—giving you, at the same time, more patterns, a better, more uniform product and absolutely trouble-free operation.

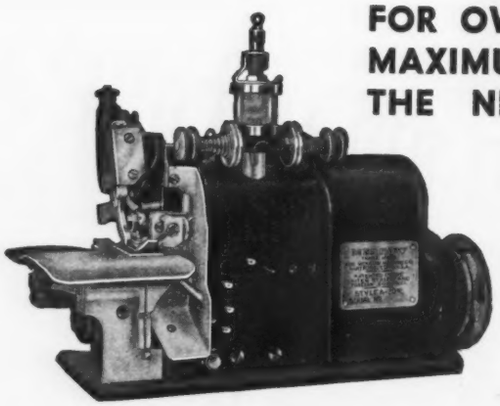
Write for its many other exclusive features and advantages.

WILDMAN
THE WORLD'S STANDARD

## WILDMAN MANUFACTURING CO.

NORRISTOWN, PA.

**Established 1838** **MERROW** **Incorporated 1894**



**FOR OVERSEAMING AND OVEREDGING WITH MAXIMUM EFFICIENCY — MODERNIZE WITH THE NEW MERROW CLASS A MACHINES**

The result of several generations of specialized effort in the industrial sewing machine field—combining quality production with high speed and low operating cost to a greater degree than ever before.

WRITE FOR DETAILS AND LET US DEMONSTRATE THESE MACHINES ON YOUR OWN FABRICS.

ALSO PLAIN CROCHET AND SHELL STITCH MODELS FOR ORNAMENTAL EDGE FINISHING AND CLASS 60 MACHINES FOR BUTT SEAMING

**200 VARIETIES FOR 200 PURPOSES**

**THE MERROW MACHINE COMPANY**

Starting Its Second Century

2803 LAUREL STREET. HARTFORD, CONN., U. S. A.

Acme Products

*for seamless hosiery knitting*

Speak for themselves

Up-To-Date Machines

Needles

Economy Makers

ACME KNITTING MACHINE & NEEDLE CO.

FRANKLIN, N. H.

NE BUTT CO

New!

**KNITTING LOOM**

Unequalled for variety in patterns and colors, speed and capacity. Produces curtains, tablecloths, dish cloths, pot holders, overdrapes, bedspreads, decorative trimmings, etc., etc. Write for details.

**NEW ENGLAND BUTT COMPANY**

PROVIDENCE, R. I. CHICAGO, ILL.

THE LOYAL T. **IVES** COMPANY EST. 1874

**SPRING BEARD KNITTING NEEDLES**

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines: Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

*Sheet Metal Specialties to Order*

**NEW BRUNSWICK NEW JERSEY**

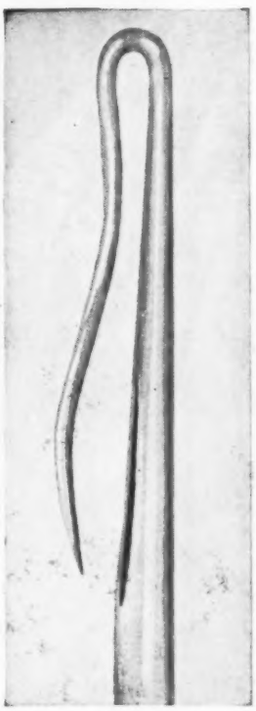
## COOPER LATCH AND SPRING NEEDLES

ARE MADE TO HELP YOU

# KNIT SUPERIOR FABRIC EFFICIENTLY

***Cooper High-Speed Latch Needles with Non-Turnable Rivets:*** These are made from a special grade of needle steel which retains its strength during the machining and tempering of the most delicate parts. Note the accompanying close-up of the rivet. All tendency of the rivet to turn and loosen (a common trouble in latch needles) is prevented by this specially designed, non-turnable rivet, exclusive with Cooper. The rivet is also designed to separate and hold the cheeks of the needle permanently at the same distance from each other, insuring free movement of the latch. Accurate tempering and careful finishing produce a long-lived, reliable, uniform needle, capable of knitting exceptionally high-grade underwear, outerware, and hosiery.

***Cooper Spring-Beard Needles:*** Ever since its introduction as the first needle of this type made in the United States, the Cooper Spring-Beard Knitting Needle has maintained a position of leadership. Accurate and ingenious machinery converts specially prepared cast-steel wire into Cooper Needles. The manufacturing process includes particularly accurate tempering and rigid individual inspection of each needle. Precision measuring instruments supplement this inspection to insure absolute conformity to size and shape requirements.



## CHARLES COOPER COMPANY, INC., BENNINGTON, VERMONT

machine and hand knitting

*Yarns*

[French-Bradford]

for

BATHING SUITS
OUTERWEAR
HOSIERY
UNDERWEAR

*

*Complete color assortments*

**American Woolen Company**

225 Fourth Avenue New York

**TOMPKINS**

CIRCULAR SPRING NEEDLE

**KNITTING MACHINES**

*FOR PRODUCING*

| | |
|---|---|
| UNDERWEAR | OVERCOATS |
| SWEATERS | TERRY CLOTH |
| SWEAT SHIRTS | STRIPED CLOTH |
| DRESS CLOTH | PATTERNS |

RUBBER LAY-IN FABRICS

CIRCULAR LATCH NEEDLE

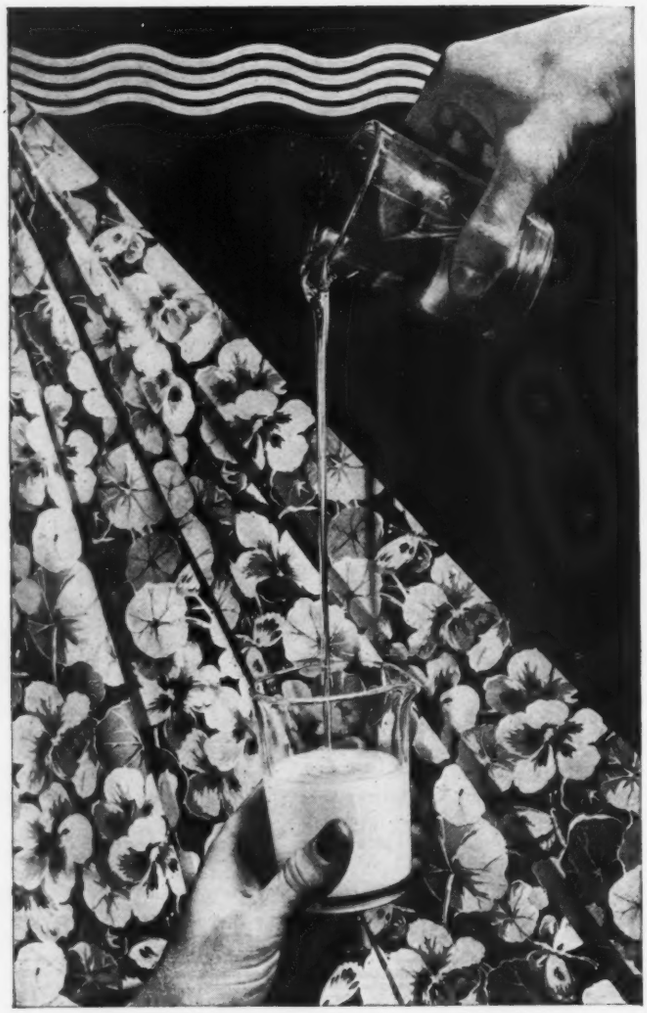
**KNITTING MACHINES**

*FOR PRODUCING*

| | |
|---|---|
| TOQUES | SCARFS |
| PARKAS | SHAKER CAPS |

**TOMPKINS BROS. CO.**

SINCE 1846 SYRACUSE, N. Y.



# RHOPLEX* AND RHONITE* RESINS

## . . . *Improve Starches*

CRYSTAL-clear RHoplex or RHonite resins, when mixed with starches, improve the film strength, toughness, flexibility and permanence of the finish.

To increase wash-fastness, to prevent dusting, to reduce shrinkage and slippage, to increase strength—add RHoplex or RHonite resins to your starches.

**RÖHM & HAAS COMPANY, INC.**

*222 W. Washington Sq.* *Philadelphia, Pa.*

*Trade Mark Reg.
U. S. Pat. Office

# RAYON IDENTIFICATION *with* TINTINOL

***Certified Fugitive Dyes for all Synthetic Fibres and Admixtures***

**TINTINOL** *is Ready for Use in Any Color*

**TINTINOL involves the control of three essential factors in Rayon Manufacturing by one simple application .. *Moisture, Lubrication, Tinting.* ★ It imparts tenacity similar to good running cotton, produces a firm web, reduces the crunch, reduces static and split laps. It is the most convenient and economical tinting process known. *No extra handling* . . . no drying . . . no heating . . . no harsh stock or curled fibres. ★ TINTINOL is shipped in light steel drums which serve for supply reservoir. You can have *any* color by the turn of a valve. ★ Base Oil (SS) concentrate is also available for conditioning white Rayon stocks where tinting is not necessary.**

**BORNE SCRYMSER COMPANY**

Originators of the BRETON MINEROL PROCESS for CONDITIONING COTTON

**17 BATTERY PLACE NEW YORK**

Southern Sales Manager: H. L. Siever, Charlotte, N. C.
Representatives: R. C. Young, Charlotte, N. C.
W. B. Uhler, Spartanburg, S. C. John Ferguson, La Grange, Ga.

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KINK OF THE MONTH "in the interests of more efficient cleaning"

## STEAM CLEAN DYE VATS this Faster, Easier, Oakite way!

Cleaning between dye changes can now be accomplished quicker, easier and at surprisingly low cost by using energetic yet safe Oakite materials. Applied through steam cleaning equipment, Oakite materials remove dye accumulations and scum deposits completely, leaving your equipment spotless.

This thorough Oakite method is your surest guarantee of maintaining dyeing quality. Write for interesting booklet on how you can benefit by steam cleaning at less cost than ever before. Yours without obligation.

OAKITE 1909 1939 30 YEARS OF SERVICE TO INDUSTRY

Manufactured only by
OAKITE PRODUCTS, Inc.
42 Thames St., New York, N. Y.
*Representatives in All Principal Cities of the U. S.*

**OAKITE *Certified* CLEANING**
MATERIALS & METHODS FOR EVERY CLEANING REQUIREMENT

VICTOR
Chemicals
TETRA SODIUM PYROPHOSPHATE
Made by an improved manufacturing technique in Victor's new plant . . . the largest of its kind in existence. Designed to meet the large scale demand for a product of uniformly high quality.
Victor Catalog of Chemicals Sent on Request
VICTOR CHEMICAL WORKS
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# MODERN ANTICHLOR

**VIRGINIA**

## ESOTOO

**LIQUID SULFUR DIOXIDE**

**with**

## *6-point Superiority*

1) **Positive high-speed neutralization of active "bleach"**
2) **Reduction in volume of wash-water**
3) **Accurately controlled pH**
4) **Elimination of tendering**
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6) **Ease of application**

**—all giving greater economy.**

**For more complete details, we will gladly furnish you with a copy of "Liquid Sulfur Dioxide—the Antichlor" by A. K. Scribner. Simply write to F. A. Eustis, Secretary,**

**VIRGINIA SMELTING CO.**
**131 STATE ST. BOSTON, MASS.**

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FINISHED
for lasting beauty—
miles more wear . . .
extra dullness . . .
extra softness . . . extra fine and sheer appearance . . . extra resistance to snags and pulls and runs . . . extra resistance to water spots.

SCHOLLER BROS., INC.
Mfrs. of Textile Soaps, Softeners, Oils, Finishes
Collins & Westmoreland Streets, Philadelphia, Pa.
St. Catharines, Ontario, Canada

***remember the New Name—***

formerly
"Dura Bond"

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FIG. 27

Today's ASSURED Profits
Are in Economies of Operation

**LANE BASKETS**

and

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**Are Profit Producers**

W. T. **LANE** & BROS., Inc.
*Manufacturers* : POUGHKEEPSIE, N. Y.

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**SOAPS, OILS AND FINISHES**

For Knitters, Throwsters,
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*Laurel* SOAP MFG. COMPANY, INC.
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WAREHOUSES: Paterson, N. J. Chattanooga, Tenn. Charlotte, N. C.

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*INDUSTRIAL ENGINEERS*

Specializing in Textile Costs and Operating Methods for More Than a Quarter of a Century

COST SYSTEMS
WORK LOAD STUDIES
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FALL RIVER, MASS. GREENVILLE, S. C.

It takes Chemists to Build Good Tanks!

For forty years Caldwell Tanks have been famous in the textile industry because they're made by men who *know* both the mechanics and the chemistry of dyeing, bleaching and finishing . . . Caldwell Tanks are therefore built ideally resistant to corrosive chemicals—scientifically constructed for hard wear and long service. Let us prove it. *Write for catalog.*

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2060 Brook St., Louisville, Ky.

Caldwell TANKS AND TOWERS

*When you need buying data on equipment or supplies*

"Look it up First" in

TEXTILE WORLD
YEARBOOK & CATALOG

# LIQUID LATEX

• *Normal and Concentrated* •

Agents in U. S. A. for Dunlop Concentrated 60% Latex, product of Dunlop Malayan Estates, Ltd.

## CHARLES T. WILSON CO., Inc.

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CORN STARCHES, DEXTRINES, GUMS, CORN SUGARS & SYRUPS

NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA

SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.

John: Let's order new Douglas Spunray Gum for warp sizing spun rayons, spun acetates and mixtures.

Understand protects yarns like standard starches yet desizes completely in soap and water.

Jim

ROME SOAP MFG. CO.

MANUFACTURERS OF

Textile, Laundry

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Special Soaps

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WRITE US FOR SAMPLES AND QUOTATIONS

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RARITAN, N. J.

TENTERING and DRYING MACHINERY

HIT OR MISS METHODS

•••of ordering your alkalies often kick back!

*• • • and kick back by influencing either the quality or the cost of your textile products.*

When you use Solvay Alkalies, you can depend on their high quality . . . depend on their constant uniformity at all times. Here are a few other dependable points to consider before you place your order for alkalies:

**THE RIGHT TYPE OF PRODUCT FOR THE JOB** Solvay Alkalies are made in various forms to meet specific manufacturing requirements. The Solvay Products Book will give you complete information on types and strengths of Solvay products.

**UNIFORM QUALITY** . . . Only most modern and scientific manufacturing methods are used in making Solvay products—assuring uniform quality standards in Solvay products *every time you receive them.*

**MODERN DISTRIBUTING FACILITIES** . . . Three of America's largest alkali plants, located in important industrial centers and over 100 stock points assure prompt delivery and efficient routing of your orders for Solvay Alkalies.

**YOUR PROBLEMS CONCERNING THE USE OF ALKALIES ARE SOLVAY'S** . . . Solvay Technical and Engineering Service Division will help you get the most from your alkalies. Write to

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*Alkalies and Chemical Products Manufactured by The Solvay Process Company*

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## TEXTILE WORLD

***Member of The Associated Business Papers • Inc.***

# *CONTACTS make CONTRACTS at the 36th Annual*

# KNITTING ARTS EXHIBITION

## COMMERCIAL MUSEUM • PHILADELPHIA • APRIL 15, 16, 17, 18, 1940 •

UNDER THE AUSPICES OF
NATIONAL ASSOCIATION OF HOSIERY MANUFACTURERS
AND UNDERWEAR INSTITUTE

American dominance in this year's premier show of the entire knit goods trade, makes it vitally important for EVERY manufacturer and EVERY-ONE who produces new designs—new processes—new mechanical features —new trade-building ideas—to be PROMINENTLY represented.

***IF YOU MAKE***

- Knitting Machinery
- Dyeing Machinery
- Drying Machinery
- Winding Machinery
- Throwing Machinery
- Yarns of all kinds
- Chemicals, Oils and Soaps
- Mill Supplies and Allied Products

***YOU WILL SELL***

- Company Executives
- Mill Officials
- Purchasing Agents
- Sales Managers and Key Men in all branches

### COME IN – and CASH-IN

THIS year's get-together of producers and purchasers is one you positively *can* CASH-IN on. It's an ex-SELL-ent opportunity. Don't put it off—PUT IT OVER! Here's the way to sign your sales insurance policy.

### MAKE YOUR SPACE RESERVATIONS TODAY!

*For full information (and you'd better hurry) WIRE, 'PHONE or write to*

ALBERT C. RAU, Manager

## KNITTING ARTS EXHIBITION

**925 PARK SQUARE BUILDING** **BOSTON, MASS.**

**Telephone HANcock 8996**

## POSITIONS VACANT

*(See also "Selling Opportunities Offered")*

MECHANICAL ENGINEER, Chemist and Department heads for new rayon plant in Latin America. Only thoroughly experienced department heads having long and successful record here or abroad will be considered. State in full detail experience, nationality, salary expected, family. Complete references will be required following personal interview. Applications will be held strictly confidential. P-624, Textile World, 330 W. 42nd St., New York, N. Y.

ASSISTANT SUPERINTENDENT!—We have an opening in large silk and rayon throwing plant—very good opportunity for experienced man who has successfully handled such position in modern large plant. Write full details about experience and references, to P-625, Textile World, 330 W. 42nd St., New York, N. Y.

## POSITIONS WANTED

*(See also "Selling Opportunities Wanted")*

SUPERINTENDENT OR OVERSEER of rayon shirting weaving by a young man experienced with dress and sheer goods linings fancy and novelty box and dobby weaves C&K Stafford and Draper looms. PW-190, Textile World, 330 W. 42nd St., New York, N. Y.

FOREMAN-FIXER open for position, experienced on any type F.F. Machines. PW-623, Textile World, 330 W. 42nd St., New York, N. Y.

HOSIERY: Have twenty-five years experience with present concern as assistant and Branch Manager in Seamless and Full fashioned mills. Good recommendations. Firm retiring from business, reason for change. PW-626, Textile World, 330 W. 42nd St., New York, N. Y.

ENGINEER, 30 years experience, licensed in New York State, formerly Resident Engineer railroad, section engineer New York subway desires similar connection vicinity of New York. PW-629, Engineering News-Record, 330 W. 42nd St., New York, N. Y.

## BUSINESS OPPORTUNITIES

**Opportunity with Investment**

North American with established Agency, wants young man with $5,000. Capital to buy machinery valued at $3,500 and come to Lima, Peru as a half partner in the Agency and Dry cleaning business, can guarantee 100% over Capital yearly, capital guaranteed by machinery and established business, reply by air mail, Geo. M. Slayton, Castilla 1073, Lima, Peru, South America.

**Partner Wanted**

To invest $25,000 in textile plant equipped with all wide Crompton & Knowles 4x4 Box Looms, with Jacquard 1300 Fine Index and 600 Hook Machines, manufacturing popular line Upholstery and other fabrics. Potential production $250,000 per year. Established, running business; invites thorough investigation. Money to be used for machinery improvement and working capital. Only those desiring to take active part need apply. BO-627, Textile World, 330 West. 42nd St., New York, N. Y.

## SELLING OPPORTUNITIES

OFFERED—WANTED

Selling Agencies—Sales Executives
Salesmen—Additional Lines

## OPPORTUNITY OFFERED

TEXTILE SCHOOL GRADUATE Wanted for selling position in N.C. by Jan. 1, 1940. Must have not less than 10 years practical mill experience in warp slashing and dyeing cotton and rayon. Give experience and references in first letter c/o this paper. SW-616, Textile World, 330 W. 42nd St., New York, N. Y.

## OPPORTUNITIES WANTED

SALESMAN—open for line of Narrow fabrics or piece goods to the Brassiere and Corset manufacturers—can cover all territories—own car. Commission basis. SA-622, Textile World, 330 W. 42nd St., New York, N. Y.

MANUFACTURERS ATTENTION: Very large old established London highly rated firm, branches throughout England. Close government and industrial contacts, seeks to represent on commission basis various American factories. Will pay cash CIF American Sea Port. Especially need, textiles, uniform cloth. If you want AAA1 selling agency to secure export orders, write for details. Explain with items you can offer for export. Address, P. O. Box #3, Birmingham, Ala.

# WANTED

## *A Plant Manager for the Knit Underwear Business*

A long-established, aggressive, and well-financed company is seeking a plant manager to supervise its manufacturing facilities.

He should have a well-rounded experience in knitting, processing, and sewing circular knit and flat knit cotton, wool, and rayon fabrics.

He should be skilled in modern production methods, plant engineering, cost analysis, and above all, know how to handle intelligently a large force. A knowledge of time and motion study would be helpful.

We believe a fine opportunity in congenial surroundings awaits the man who can qualify for this position.

Your reply, detailing your education, experience, personal history, and financial requirements, all of which will be treated in strict confidence, should be addressed to E. A. Raisbeck Jr., 1440 Broadway, New York.

**Over Forty Years of Dependable and Confidential** **EMPLOYMENT SERVICE**
for textile mills, converters and selling houses requiring managers, superintendents, stylers, designers, salesmen, overseers, second hands, fixers, etc. 'Phone, wire or write us your personnel requirements.

**CHARLES P. RAYMOND SERVICE, Inc.**
**Phone: Liberty 6547** **294 Washington Street, Boston, Mass.**

## CANADIAN SALES AGENT

Favorably established and responsible selling agent open for representation of foremost textile manufacturer.

**N. R. MILLER & CO.**
**45 W. Richmond St.** **Toronto, Canada**

**SOUTHERN REPRESENTATION**
Available to those manufacturers having SPECIAL TEXTILE MACHINES or SUPPLIES who desire thorough and competent coverage, on a commission basis, thru a well established Sales Agency handling non-competing lines.
**RA-606,** Textile World,
330 West 42nd St., New York City

**WANTED**

To lease with option of buying or to buy outright if reasonable enough, two or three set

**WOOLEN MILL**

(New England preferred) must have finishing facilities and good boiler. Please state machinery in detail when answering advertisement.

**BO-619,** Textile World
330 West 42nd St., New York City

**PATENT YOUR IDEAS**
Send a Sketch or Model of your invention for
CONFIDENTIAL ADVICE
FREE CONSULTATION LITERATURE
IDEAS
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The "I-A" Seal of Approval signifying expert Inspection and Appraisal of equipment you buy here—for domestic or foreign use. 12 years experience by competent engineers is your guarantee. Write
**INSPECTORS & APPRAISERS**
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APPROVED I A

## YARNS WANTED

We buy all your surplus **YARNS**—look over your **YARN** stock—turn your surplus into **CASH**—no quantities too large or too small to handle—send full particulars today.

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Gramercy 7-4519

## McCORD MILL PROPERTIES, INC.

**McCord Service for textile interests is efficient and reliable in handling large or small transactions**

**MACHINERY—APPRAISALS—LIQUIDATIONS**

*Consultations Invited*

**51 MADISON AVENUE, NEW YORK, N. Y.** **Tel. Murray Hill 3-2945**
**49 WESTMINSTER STREET, PROVIDENCE, R. I.** **Tel. Gaspee 1481**

# WE OWN AND OFFER FOR SALE

## REAL ESTATE—MACHINERY—EQUIPMENT OF

# CARYVILLE MILLS, INC.

*(Formerly Taft Woolen Mills)*

**Pearl Street** **Bellingham, Mass.**

**For Sale: In Entirety only, until December 22, 1939.**
**Subject to Prior Sale or Option as an Entirety, we will offer in lots to suit the purchaser after December 22nd.**

**REAL ESTATE**—Consists of 15 Mill Buildings, 3—Dwelling Houses, about 13 acres of land. 3—Boilers. 50,000 gallon Water Tank, Sprinkler System. Weave and Wet Finishing Bldg. New in 1930, Dye House and Garage in 1924, Picker House in 1920, Card Room Bldg. in 1918, all of brick construction.

**MACHINERY and EQUIPMENT**—Including Franklin Process Raw Stock Dyeing, Hunter Piece Dye Kettles, Hunter Squeeze Rolls, P & S Raw Stock Dryer. 8—Dodge and Clark Rag Pickers, 2—Gerry Lumpers, 2—D & F and Clark Mixing Pickers, 2—D & F Fearnaught Pickers, 2—D & F Sgl. Cyl. Shoddy Cards 48 x 60, 9—Sets D & F 48 x 60 dia. Cards (4—with Tape Condensers), 12—J & E Mules, 5—Sgl. Warp Comp. Jackspoolers, 2—D & F Dressing Frames and Compressors, 52—C & K 43" Satinet 2 x 2 Box Looms, 36 C & K 92" Veribest Automatic Looms, 8—C & K 82" Plain Looms, 10—Hunter No. 10 and No. 21 Fulling Mills, 3—R. Hunt Washers, Extractors, Heathcote Cloth Dryer with P & S Housing, D & F and Gessner Nappers, P & W Model A Shear, Gessner Vac. Extractor, Gessner Rotary Press, Windle Cloth Winder, Sewing Machines, 4—C & M Chinchillas, Testing, Motors, Dyestuff, Chemicals, Scales, Bobbins, Auto Trucks, Office Equipment, etc.

UNDOUBTEDLY ONE OF THE BEST EQUIPPED WOOLEN MILLS IN NEW ENGLAND—READY FOR OPERATION

INSPECTION:—Prior to December 22nd by appointment only, and after that date by calling at plant.

*For Further Information—Write—Wire or Telephone (Lowell, Mass. 6391)*

## FRANK G. W. McKITTRICK CO.

TEXTILE MACHINERY MANUFACTURERS AND DEALERS

**60 FLETCHER STREET, LOWELL, MASS.**

*Visit our 3 Warehouses in Lowell—over 100,000 sq. ft. of Floor Space.*

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# LIQUIDATION

## THE RATHBUN KNITTING COMPANY

**565 North Main St., Woonsocket, R. I.**

***Manufacturers of***

**Fleece Lining, Stockinet, Jersey Cloth, Cotton and Wool Net and Overcoatings.**

**182 CRANE Heads, Spring Needle Knitting Machines, Both Single and Double Roll Take Ups, 26" to 30" Cylinders.**

**50 CAMPBELL & CLUTE heads, All Double Roll Take Ups, 26" to 30" Cylinders.**

**CYLINDERS, TRICK TOPS, WHEELS AND VARIOUS PARTS FOR KNITTING MACHINES**

***Also:***

**PAYNE WINDERS, Bobbins, BURR PICKER, D&F Spoolers, HEATHCOTE TENTER, 13 Tiger Nappers, Cloth Folder, Baling Press, Revolvator, Smith & Mills Shaper, Pipe Threading Machine, 36" Band Saw, Grinders, Blowers, Motors, Belting, Shafting, Pulleys, Hangars and other Supplies.**

***Catalogue Will Be Sent on Request.***

## SIMON AND LINDERSON INC.

***Liquidating Agents***

**152 North Main St.** **P. O. Box 1386, Fall River, Mass.**

**Tel. Fall River 485** **Woonsocket 1625**

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# WANTED

**WANTED**

## BALING PRESSES

**STEEL CLOTHES LOCKERS**

***Give Full Particulars***

**NEW YORK MACHINERY CO.**

**17 W. 20th Street** **NEW YORK CITY**

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**WANTED**

## FRINGE LOOM & KNOTTER

to weave carpet and rug fringes, plain and knotted types. Reply to

**W-621,** Textile World
330 W. 42nd St., New York, N. Y.

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**WANTED**

## STEEL STORAGE BINS

About 3,000 Steel Storage Bins, approximately 36" wide x 38" deep x 28" high.

**W-620,** Textile World
330 W. 42nd St., New York City

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## New "SEARCHLIGHT" Advertisements

must be received by Jan. 3rd to appear in the January issue.

***Address copy to the Departmental Advertising Staff***

**TEXTILE WORLD**
330 West 42nd St., New York City

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FOR SALE

## COTTON WARPER SPOOLS

30 M, 4x6, 1½" barrel, heads ½" thick with metal shield. Excellent condition. Immediate delivery. Price and samples on request.

**FS-618,** Textile World
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**WANTED**

1—**Woonsocket Double Acting Napper,** ball bearing 20 to 24 roller 60" to 72".

1—**Loop Dryer** with revolving sticks. Must be in good condition.

**W-628,** Textile World
330 West 42nd St., New York City

## FOR SALE—IN STOCK

2—D&F 3 Cyl 60x60 All Iron Woolen Cards.
3—Foster 80 spdl Mod. 101 Cone Winders.
300 M. New Paper Cones 6" tr. Foster Nu-taper.
1—Broadbent 60" Extractor.
1—Gessner Hi-production Rotary Press 65".
1—P & W Model A Dble Shear 42".
1—D & F 80 end Tape Condenser 48".

*We specialize in Worsted Yarn Machinery*

**FRANK G. W. McKITTRICK CO.**
60-64 Fletcher St., Lowell, Mass.
*Textile Machinery and Equipment*

## WE OWN AND OFFER FOR SALE

6—WHITIN 3¼" gauge TWISTERS, tape drive 240 spindles each.
1—INGERSOLL-RAND 17x10 AIR COMPRESSOR
1—INGERSOLL-RAND 14x10 AIR COMPRESSOR
1—NORWALK 10x8 AIR COMPRESSOR
100—HIGH-SPEED SECTION BEAMS, 27" dia. heads, 54¼" between heads
12—WHITIN 8x4 SPEEDERS, 160 spindles each

**A. F. FYANS**
*Textile Machinery*
56 Water St. Fall River, Mass.

## Partial List of Rebuilt Offerings

No. 50 Universal Winders, clutch and L drive gear or belt gain
No. 90 Universal Winders
Oswald Lever & Allemus Winders
Sipp. Warp Mills
200—Lever B.B. 4½"x9½".
15000—Fibre Head Bobbins 2¼"x3⅜"
Atwood Silk Winders and Spinners
1000—Atwood Wire Swifts hard silk
4000—Fibre Head Bobbins 3½x3¾x1¼ bbl.
Union Specials 41200A
Loopers 26-28 pt.
Motors G.E. ½ HP 3 ph—1200
8—Atwood D.D. Spinners 200 spdls.
6—Whitin Twister—Piners Model B

**Ambler Textile Machinery Co.**
S.E. cor. Bodine and York Sts., Phila., Pa.

## NORMAN M. McDOWELL

27 W 27 ASSOCIATES N.Y.C.

LIQUIDATIONS & APPRAISALS

FOR SALE

4—Double Acting Nappers.
6—Knit Goods Nappers.
3—Single Acting Nappers.
6—Shears, single and double 36" to 80"
4—Pin Tenter Frames 20' to 90'.
4—Clamp Tenter Frames 30' to 90'.
5—Fulling Mills Nos. 7 and 10
20—Winders, various types.
3—Warpers, various types.
2—Chinchilla machines.
6—Extractors, various types.
3—Washers 6' to 10'.
6—50" Jiggs.

1—20 Stick, 200 to 250 lb. capacity Klauder Weldon Skein Dyeing Machine with Haveg Tub, Century Splash Proof Motor & control right hand auto motor, 220V, 3P, 60C
2—Sets sticks inside 2-1⅛" octagon x 53-3/16", 2—1-⅝" rd. ferrules
2—Sets outside square sticks 2-¼" x 54½", 1—1-⅝" rd. ferrule & 1 long square bronze ferrule—pinned cedar lacquered

In Excellent Condition

**MORGAN DYEING & BLEACHING CO.**
ROCHELLE, ILLINOIS

# SPECIAL OPPORTUNITY
## FOR SALE

1—40" Butterworth Tenter Frame, 60" opening, Stainless Steel Clips, motor dr.
1—42" Morrison Motor Driven Extractor.
1—48" Amico Copper Basket Extractor. Side Motor V-Belt drive, automatic timing device. Explosion proof motor.
1—40" Weston Copper Basket Hydro Extractor, Belt Driven
1—48" Sargent Duplex Burr Picker.
1—49" Two Roll Mangle—11" Dia. Rubber and Brass Rolls.
1—52" Waldron, 12 color Printing Machine, complete with motor, Dry Tower, etc.
1—54" Rice Barton & Fales Six Color Printing Machine complete with Motor, Dry Tower, etc.
2—54" Textile Finishing Machinery Company 8 color Printing Machines complete with Motor, Dry Tower, etc.
1—54" King & Gerber 2 roll Embossing Machine, motor driven.
1—60" King & Gerber Motor Driven Extractor, Rubber Covered Basket.
1—60" Power Three Compartment Grey Washer.
1—60" Textile Two Burner Singer.
1—65" Van Vlaanderen 3 Cylinder Rayon Slasher, Motor Driven.
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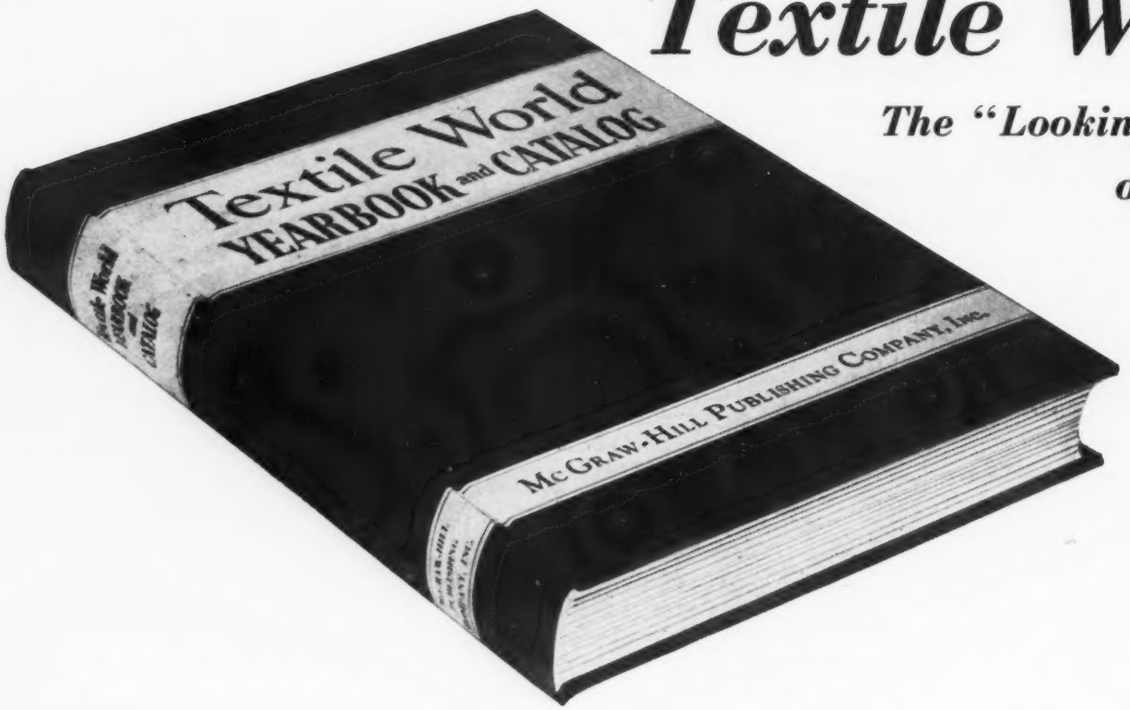


TO PUT YOU IN TOUCH with the latest details on whatever you need for your mill—to provide you with the answers to mill operating questions that keep coming up in the day's work—TEXTILE WORLD, in cooperation with almost 200 of the country's leading companies providing machinery, equipment, supplies, chemicals and services to the textile industry, has published the 17th edition of the TEXTILE WORLD YEARBOOK AND CATALOG — the 1939 edition of the "looking-up" place of the textile industry.

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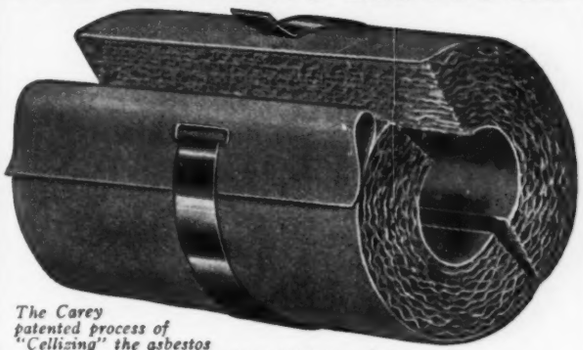

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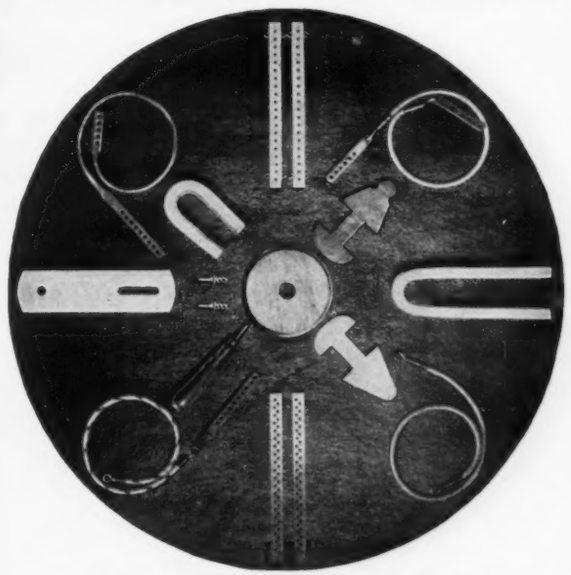

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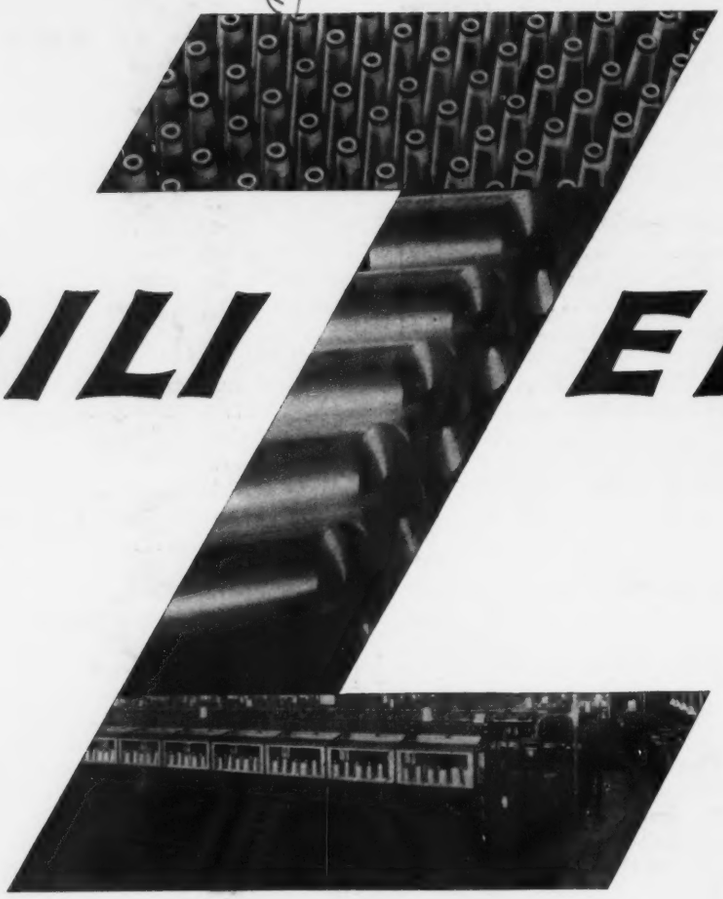

Sonoco has matched the industrial speed-up in Textile Manufacturing—stride for stride. In 1937 we completed a five year plan of development and modernization of our plant facilities. Production capacity was increased to allow a comfortable margin beyond our immediate needs. All facilities were streamlined for greater efficiency and service.

Today, to borrow a current expression, we are completely *mobilized* to meet every test of a dependable source of supply.

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